## THE SECRET OF ARENDARVON CASTLE

 HAL RENKO \& SAM EDWARDS AREND RENSINK

A MICROWORLD ADVENTURE FUR YOUR
IBM PC/PCJR

## The Secret of Arendarvon Castle

A Microworld Adventure for Your<br>|BM PC/PCjr

| Microcomputer: | IBM PC with at least one disc-drive |
| :--- | :--- |
| Memory: | 64 KRAM |
| Operating system: | PC-DOS version 1.1 |
| Language: | Disc BASIC |

N.B. Commands are only accepted in uppercase.

# The Secret of Arendarvon Castle 

# Hal Renko \& Sam Edwards Arend Rensink 

## Addison-Wesley Publishing Company

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Cover design by Bert Vanderveen Illustrations by Bert Vanderveen and Betty van Spijker

## A New Adventure

The Secret of Arendarvon Castle is different. You play the role of a journalist who has mysteriously disappeared while investigating recent events at the Castle. An unfinished article suggests a fearful end. What was his fate? What is the Secret of Arendarvon Castle? It is your destiny to find out.

Do not be alarmed. You need not go blindly forward into the unknown to meet an untimely end. You are fortunate enough to possess the dossier of information collected by the journalist during his investigations. It contains a Guide to the Castle, newspaper cuttings, articles from magazines and journals and lots and lots of pictures showing both the inside and outside of the Castle. By carefully reading through these articles and studying the pictures you will soon get a feel for the secret life of the Castle, for its history and possible future, and for the general layout of the Castle. You may even pick up a few hidden clues to help you in your adventure!

Armed with all this information you can plunge into the game, confident of dealing with any situation. The commands are structured in such a way that it is easy for you to tell the computer what it is you want to do.

Of course, once you have started to play the game, you may well find yourself in a situation in which you are unsure what is the best thing to do next. In that case you can go back to the dossier and try to find something that will help you stay out of trouble.

You may think that now you have read through the dossier you know all the answers. But don't be fooled! There are plenty of surprises in store. You must be awake and alert and ready to think your way out of disaster. Intelligence and originality will carry the day.

So now you must prepare yourself. Be brave. You must find the Secret of Arendarvon Castle...




## The Mystery Starts...



## The Journalist's Article

Writing articles about places of interest usually involves much detective work, locating relevant information. Often, there is little to be found, other than the usual local Guide Books. However, the case of Arendarvon Castle, which I visited earlier this month, is rather different. So many strange and fantastic stories are associated with the Castle that it would be quite possible to write several articles based on the details already available.

Situated in the far North-West of Scotland, set among the barren, desolate but wildly beautiful highlands, this castle is a perfect example of what most people imagine a castle to be: imposing, impregnable, invincible. A 'must' for every tourist whose vacation takes them to that part of Scotland.

Arendarvon Castle is one of the largest true defensible castles in Scotland. Built on the ruins of a much older, smaller 'tower house', this castle has been the refuge of barons, one king, a collection of alchemists, dukes, a whole regiment and now mainly rats and the custodian of the small Castle Museum.

As I type, I have in front of me a translation of a page from a medieval diary. It is written by Zazar the Great, most powerful of the Order of Magicians. In it, he describes his terrible fate. The page finishes with a short riddle. It is rather odd. I can't resist speaking it aloud ....

All around is confusion. I am drifting in a timeless, formless void. It is as though I have been sucked through the window of reality by a great rush of air. I am shaken but unhurt. I am alone. Wait. Something is taking form out of the limitless abyss. It is a tall man. Ancient beyond reckoning but not decrepit. Dressed in a fantastic cloak and a tall hat covered in magic pentacles, his keen blue eyes and flowing black hair suggest a hidden vitality beneath the white beard. He stands still, as if deep in a trance, unaware of my presence, but at the same time a rich, musical voice speaks softly in my ear:
'I am Zazar the Great, most powerful of the ancient Order of Magicians. You are now on the astral plane, a disembodied spirit. Do not fear. Your earthly body stands at the space-time junction at the point where you spoke the magic riddle. It will be held there, inviolate, until your return".
"By speaking aloud the riddle you have committed yourself to a quest beyond your imagining. The riddle was protected by a spell. The magic stored within was released when it was spoken by someone with the qualities of inner strength and the unconscious ability to handle magic spells. These will be necessary to overcome the dangers that now lie ahead and to complete the task successfully. For know that your task is this: To retrieve the all-powerful cube of magic and the subtle spells associated with it".
"Half a millenium ago, in an act of the darkest evil, the cube was stolen from the Order. Since then much mischief has been wrought. Disturbances have been created in the natural world. Uncomprehending mortals, in fear, call these supernatural. There is now a fundamental imbalance in the equilibrium between the simple laws of earth science and the higher laws of alchemy. The balance can only be restored by regaining the cube of magic. You are now committed to this task. You cannot refuse".
"All that you experience will have the appearance of reality. You may even die. But death on this plane is not final. A strong spirit may overcome death. Should you complete your mission successfully, you will be returned to your earthly body with only a dream to remind you of all that has taken place".

Now the image fades. Around me different forms take shape. Slowly, the solid, daunting, form of Arendarvon Castle appears ahead. Behind me is a drawbridge. I know that to cross the bridge would be to refuse my task. But it is not in me to decline. The power of Zazar is on me. I must go ahead. I must find The Secret of Arendarvon Castle!
the largest true defensible
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of alchemists, dukes, a whole
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s written by zazar the Great,
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## The Journalist's Dossier



## NOTICE TO VISITORS

Since the publication of this guide, part of the Castle has been closed as a result of investigations which show it to be unsafe. This includes the Chapel and all of the ramparts. The Armoury can be visited only on request in groups of at least ten. The custodian has the key of the lavatory.


## A

## Guide to

## Arendarvon

 CastleTHE CASTLE OF ARENDARVON is probably the bestpreserved medieval castle in the whole of Great Britain. Since it never played an essential part in any war, it was never seriously damaged. That, no doubt, is why Arendarvon Castle can look back on a very particular and interesting history. It has been inhabited by many famous and powerful people.

The Castle Museum was founded in 1958. It is well known for its large collection of medieval objects, such as its armoury, and for the marvellous state of repair of the castle.

## Contents



A Map of the Castle Museum is included separately.


Coat of Arms

## History

TO GAIN AN INSIGHT INTO the architecture and peculiarities of Arendarvon Castle, it is necessary to go back through the centuries, to the time when there was a need for large castles in order to live safely: the dark Middle Ages.

Castle building in medieval Scotland properly started with the coming of the Normans. They "imported" into Great Britain a special structure consisting mostly of wood and timber, called a motte-and-bailey castle. Of these very few now remain.

In the far North-West of Scotland, however, some castles can be found that are not Norman and are claimed to predate the Norman mottes. It is on the remains of one of these, probably Gaelic, castles that a Norman knight called Darvon built a stone castle in about 1150 AD . Darvon, it seems, had been invited to support the King of Scots in war, in return
for an estate in Scotland. There were many knights who rallied to this call: the Sinclairs and the Maxwells and many more came to Scotland at that time.

Darvon's castle was no more than a massive tower, an early example of the socalled tower-house that was to be the dominant type of castle for centuries. In 1300 the castle was destroyed in order to prevent the English from capturing it. Around 1320 a plague appears to have killed all of the Darvon family, and their name lives on only in the name of the county of Darvon.

A new castle was built by Lord Manwryen, whose name indicates a Welsh

background, during the dangerous times when the weak kings Robert II and III reigned. Again, this castle consisted only of a single tower. This tower, though altered and embellished, is now the southeast tower of the castle. Although wars and feuds raged on during the fifteenth and sixteenth centuries, Arendarvon Castle, situated in a remote corner of Scotland, saw nothing of these.

In 1420 work was started on a great extension of the castle, giving it the appearance we see today. Notably, Arendarvon Castle is one of only two rectangular castles in the whole of Scotland (the other is Linlithgow in Lothian), whereas in England this was the most fashionable type of castle at that time. Shortly after the completion of this extension, Lord Manwryen was hanged for scheming against King James II of Scotland. The Manwryen family fled to France and the castle was confiscated by the King.

When he died, James left the castle to his most trusted nobleman, Sir William Douglas, who became first Earl of Darvon. This member of the famous Douglas family and his successors did a great deal to make the castle more comfortable: the hall and the main residence of the Earl were replaced from the dark old towerhouse to the north side; a chapel was added (not the same one you can visit today); an extra storey was added to two of the newer towers; and part of the soldiers" rooms were converted into more luxurious guest rooms.

William's great-great-grandson, James Douglas, 6th Earl of Darvon (there is some confusion about the number) was one of those mysterious Middle Ages" scientists, the alchemists. He died childless. The heritage was then left vacant, but for half a century no one claimed the property. This seemingly strange situation must be seen in the light of the changed political situation: Scotland and England had been re-united under James VI (of Scotland) so there was no longer any need other than
for prestige to have a castle, and castles were not the most comfortable of places to live in.

In 1680, however, the castle was claimed by a distant relative of Lord Manwryen, who built the castle. No one objected to his claim, backed by a fortune, and the castle returned to the Manwryen family, and remained in their possession until the 1930s.

The Manwryens added to the castle the magnificent 17th century chapel, replacing the old one built by the Douglas family, and later the large 19th century windows in the west wing.

Lord Manwryen IX was made a baron in 1820 for faithful service in the war against Napoleon, and the last Lord Manwryen received the Victoria Cross for great deeds in the service of his country in the First World War. When he died in 1932, he left the castle to the Crown on the understanding that it would become the lodgings of the Second Regiment of Mountaineers of which he had been the commander.

The regiment was decimated in the fight against the Malayan insurgents in 1957, and did not return to the castle. In 1958 the Castle Museum was founded, and in the following years the collection wasenriched by donations and purchases.

## The Exhibition

APART FROM THOSE ROOMS THAT have been restored almost exactly to their original condition and which will be described later, there is a small permanent exhibition of objects that are not strictly medieval. This exhibition is situated in a special room, formerly a living-room.

On entering the room, to the left is a collection of coins, ranging in age from medieval to the 20th century. There are some very fine rare coins, notably one silver coin with two heads of James III of Scotland and a coin of James VI with the emblems of both the Scottish and the English royal houses, indicating the union

of Scotland and England under James VI.
The coins were a donation to the Museum by Sir Anton MacDonald, one of the founders of the Museum, in 1964. Some coins found in a secret safe in the main tower were added to the collection in 1967.

On the north wall there is a painting of the first Earl of Darvon, William Douglas, and two show-cases containing mostly household objects used by the Douglas family. These objects give an interesting insight into life in the Middle Ages. There are knives and spoons, but no forks; there are various gaming devices such as dice and cards, but there are absolutely no superfluous decorative items.

Also exhibited are some sculptures, which belonged to the Manwryens. These are decorative, and none is original. One is clearly in-


Lord Manwryen VII
spired by the Venus of Milo. They are no more than two centuries old. To the right, some arms are displayed, meant to show the change in weaponry through the centuries. They range from a short bow to 19 th century rifles. A very beautiful and well-kept piece can be seen in the court-



## The Armoury

SITUATED IN A FRONT ROOM of the Castle is the armoury, where most of the weapons and suits of armour were kept; cannons were permanently stationed behind strategically placed gun-loops in order to be ready in the event of a surprise attack, while daggers, which could also be used as knives, were always carried by the men.

It must be remarked that the lay-out of Arendarvon Castle is not quite logical. To get to the armoury, one must walk from the soldiers" rooms through a corridor; but to get out the same corridor must be used. It is easy to see how this would result in chaos if weapons were needed quickly. It would have been expected that another exit existed, leading, for instance, eastward to the portcullis.

The collection of weapons and armour in Arendarvon Castle is unique. The mostoutstanding items are the two suits of armour which belonged to James II of Scotland and his son. They are complete in every detail, which is very rare, and since they have never been used in battle
and have always been very well cared for, they are in nearly perfect condition. A close study reveals the truly marvellous workmanship of the medieval weaponsmith working with relatively primitive tools.

To the left of the entrance to the armoury is a display of all the weapons and protection a knight in full battle-dress would wear. They add up to an enormous weight, which often equalled the weight of the knight himself. Indeed, cases are known of persons whose armour alone was twice their own weight! It is easy to see how this would slow down their movements, and consequently knights were very vulnerable without their horses. For


Armour of James II
this reason horses often had their own suits of armour, but none of these is in the Arendarvon collection.

Next is a series of swords and spears. Again, they are impressive for their size and weight and it can hardly be believed that such weapons were really used in battle. The arms displayed are not even the largest known: swords six feet long and spears of twice that length have been wielded. The blades and points are now blunt, as a result of the centuries that have elapsed since these weapons were used.

Further along are bows, both longbows and crossbows. Contrary to popular belief, the latter are the older and were supplanted by longbows. There are no arrows, only arrow-heads: the wooden shafts have rotted away. Metal shafts were also made but these do not seem to have found common use, probably being too expensive or too heavy. No example is exhibited here.

Tothe rightare the aforementioned suits of armour of James II and his son. These are far shorter than the average height of man today, indicating that people in the Middle Ages were smaller than we are today.

## The Bedroom

THE BEDROOM IS ARRANGED, as far as possible, to appear as it would have done in past centuries. The room consists of two separate units: the left half is arranged as a sitting-room from the 19th century, with excessively large chairs in the style of Louis XIV, a writing-table and a large hearth-rug; the other half is arranged as a 15 th century bedroom, with the magnificent bed that belonged to James II. The wall paintings are 17 th century, as are the baroque ceiling decorations.


Normally, of course, the bedroom and sitting-room would be in different rooms, but this arrangement has been chosen to show the differences between life in the 15 th century and 19th century: the sober bed in contrast to the comfortable chairs. Also, in the original sittingroom, which is described later, the walls have been stripped of their 19th century covering paint to reveal the underlying 16 th century paintings.

The chairs have been bought and are actually quite common. The writingtable was found in one of the servants" rooms and has been beautifully restored. The hearth-rug lay on the second floor in
one of the guests" rooms. It has been worn by use and there are marks where sparks from the fire have landed on the rug.

The bed is a very rare piece. It once belonged to James II of Scotland who spent some years in Arendarvon Castle. It shows the skill of the 15 th century craftsmen, for it has been used continually, finally as a soldiers bed, but is still in usable condition. In the Middle Ages, luxury was denied even to kings, simply because luxury was something unknown. The bed is no more comfortable than a plank-bed, although decorated by a crown and the Scottish Eagle.



## The Great Hall

HE GREAT HALL WAS the most important room in the castle, being the residence of the Earl and the place for festivities. In the Middle Ages, this hall was often built in a heavily defended part of the castle.

Originally this was the case in Arendarvon Castle, but Douglas, 2nd Earl of Darvon, built a new and more luxurious hall in the north wing in addition to the chapel previously mentioned.

At that time the need for thick walls and dark rooms had ceased, for it did not
seem likely that Arendarvon Castle would continue to play an important part in war. Emphasis was placed more and more on comfort.

In the room which was to become the Great Hall, and which was probably a soldiers" room before, large windows
were constructed in the north wall, and the entrance via the sitting-room (then chapel) was enlarged and decorated. The windows are actually a strange historical phenomenon, for they are clearly baroque in shape, but the baroque style had not yet been seen outside Italy. The only feasible explanation is that the windows were constructed by an Italian craftsman or by someone who had only just returned from Italy.

As regards the interior, the massive oak table and chairs are 16 th century. Though they bear the marks of use, they have survived the centuries in wonderful condition.

There is a story that the 6th Lord Manwryen wanted to have another less
barren table in his hall, but that it proved impossible to move the table through the doorway. He ordered it to be cut into pieces, but the wood had hardened so much that after an hour of hard work no more than a few scratches resulted. The attempt was then abandoned.

There are a number of wall paintings, but nothing remarkable. They are quite weather-beaten: in the final years of the last of the Manwryens most of the castle stood empty and neglected. The Great Hall was never heated, resulting in a great deal of frost damage.

The large cupboards are all 18th and 19th century, and are fine pieces of workmanship. They have not suffered too much from neglect.

## The Library

FROM THE GREAT HALL, there is a view of the gallery on the first floor, leading from the (new) chapel into a blank wall. The book- cases in the gallery are part of the famous ancient library of Arendarvon Castle, which is unfortunately not open to the public.

The library consists of books on magic and alchemy.

The collection was started by the last Douglas (6th Earl of Darvon), whose hobby was alchemy. It was enlarged and enriched by the Manwryens, and is one of the finest collections of books on the subject anywhere in the world.

It is an important object of study, and there have been requests to have the whole library moved to Oxford University. This cannot be done however, since it was explicitly stated in the will of the 11th Lord Manwryen that the collection should remain in the castle.


The Book of Spells

## The Chapel

# U 

 NDOUBTEDLY THE MOST FAMOUS PART of Arendarvon Castle is its chapel. Built in the 17 th century, this holy place is marvellously preserved and is one of the most beautiful examples of castle chapels in the world.The chapel was built as an addition to the castle by the second of the Manwryens, and replaced the old chapel next to the Great Hall. The extension into the north wall and the baroque window are probably of a later date.

The most striking features of the Arendarvon Castle Chapel are its wall paintings, clearly influenced by the baroque style with a remarkable likeness to the paintings of Michelangelo. That these paintings are so well preserved is a fortunate consequence of the fact that the Manwryens remained Catholic, and the chapel was used even when most of the castle was uninhabited. The paintings are in far better condition, for instance, than those in the Great Hall.

Although the chapel appears to have been bare initially, except for a few stools and a small altar, much was added in subsequent periods. The statue of the


The Chapel

Virgin Mary and child, by an unknown sculptor, is particularly beautiful and much older than the chapel itself. Either this sculpture was moved from the old chapel into the new one or it was bought from a church (the Manwryens were very rich).

It may also have come overseas with the Manwryens when they returned from France.

More additions were made, such as a bigger altar, more comfortable pews and seats for the rich, wood carvings showing biblical passages, chandeliers and a fantastically large wax candle which has apparently never been lit.

As mentioned earlier, the chapel was used until the last Lord Manwryen died. During the period when the Second Regiment were resident here, the chapel was not used, but was maintained in good condition. Occasional services are now held for the sake of tourists.


Madonna by unknown sculptor

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Whes

## The Sitting-Room

A LTHOUGH HARDLY RECOGNISABLE AS SUCH, the so-called sitting-room served as a chapel for the Douglas family. Situated next to the great hall, this room was the second most important in the castle.

However, the second Lord Manwryen built a new chapel in the north-west tower (which will be described later) and so the old chapel was abandoned. The walls were painted over and the place was arranged as a sitting-room.

The fact that this room was once a chapel was discovered only recently, by accident, when the 17 th century wall paint was damaged by careless handling of a cupboard by a workman. Behind the blistering paint another layer was found and it was decided to have the upper layer removed. It appeared that there was a religious picture underneath. Further investigation revealed an old engraving from which it became evident that the
room had once been a chapel.
Since such well-preserved medieval religious pictures are unique, it was decided to have the more recent painting wholly removed. This resulted in the present situation. Some really marvellous pictures appeared, notably the figure of Christ on the southern wall, and the enormous painting of the conversion of Saint Paul on the northern wall, the latter unfortunately disfigured by a large 19th century window.

Also, a very strange and hardly religious children's rhyme was discovered, put up, according to experts, later than the other pictures, but undoubtedly older than the removed painting:


View from North-East Tower

Rats eat it<br>Lords read it<br>$I$ bound it<br>None found it

Many experts have tried to explain the riddle of this mysterious verse, but probably no one will ever solve it.

Further attempts have been made to reconstruct the old chapel, which is still known as the "sitting-room", as it was originally used, but plans to re-arrange the room that way have been abandoned as too costly.


This guide is published by the Trustees of the
Arendarvon Castle Foundation.

Text by Dr. Philip Morrison, RHS.<br>Glendarvon, 1969.

## THE MUSEUM OF ARENDARVON CASTLE


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DAILY MAIL
May 1983


 THE TIMES May 1978
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## October 1976



May 1984

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| secret passage in Scots castle |  |  |
| express reporter |  |  |
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DAILY MAIL
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## 12:5 The Castle-chapel

A special class of religious building is constituted by the chapel built in a castle. If we want to be complete, there has to be an example of this kind of chapel incorporated in the book. We have decided to pick on the chapel of Arendarvon Castle, a medieval castle in the North of Scotland. Built in the 17 th century, this chapel is marvellously preserved and is one of the most beautiful examples of castle chapels in the world.

The chapel was built as an addition to the castle by Lord Manwryen, and replaced an older one, built two centúries earlier. There are a few minor additions of a more recent date.

The most striking features of the Arendarvon Castle Chapel are its wall paintings, clearly influenced by the baroque style, with a remarkable likeness to the paintings of Michelangelo. That these paintings are so well preserved is a fortunate consequence of the fact that the Manwryens remained Catholic, and the chapel was used well into the 20th century.

There is also a baroque window, one of the newer additions, showing the crucifiction of Jesus Christ.

Although the chapel appears to have been bare initially, except for a few stools and a small altar, much was added in subsequent periods. The statue of the Virgin Mary andChild, by an unknown sculptor, is particularly beautiful and much older than the chapel itself. Either this sculpture was moved from the old chapel into the new one or it was bought from a church. It may also have come overseas with the Manwryens when they returned from France.

Further additions were made, such as a bigger altar, more comfortable pews and seats for the rich, wood carvings showing biblical passages, chandeliers and a fantastically large wax candle which has apparently never been lit.

The chapel clearly demonstrates the serious attitude take in the 17th century towards religious experience. Rebuilding the new chapel on the site of the old one was neither cheap nor easy. Shallow recesses in the thick walls, presumably used as confessionals, represent a significant architectural achievement.

As mentioned earlier, the chapel was used until this century. During the next period the chapel was not used, but was maintained in good condition. Occasional servicés are now held for the sake of tourists.


ILL. 37: The Chapel of Arendarvon Castle


PLATE XXIII
Alchemist, 15th century

## ABOUT

## THE SORCERERS

## OF

ARENDARVON CASTLE

## James Douglas

Arendarvon Castle in Scotland has played a significant role in the history of magic, being the home of the most famous 17th century sorcerer, James Douglas -his "deep" name is unknown to this day. The following story, based on facts, gives an impression of the life of this Master.

He listened. Did he hear a sound or was it just his imagination? No! There it was again. The sound of a carriage riding over the drawbridge. He abandoned the document he was writing and hurried to the courtyard. They had come. Actually, the number of servants in the castle was hardly enough to receive such important guests. Never mind: they hadn't come to live in luxury. And of course it was not wise to have too many servants around when one was occupied with magic. The less people knew about it the better.
The reunion of the old friends was very cordial. James hadn't seen them in a decade: Felix, the jovial Spaniard, small in body but all the more lively; Maurice, tall and stately, although visibly ageing now; Jeanne, the great French lady, the only female sorcerer in history.
These weren't their "deep" names, of course: "deep" names were not used conversationally even between close friends.

When the guests had refreshed themselves, the four settled down to listen to each other's stories about the events of the last ten years: friends who had died, discoveries made, the political situation.
"It's a pity about those Blau spells', Felix remarked, referring to the collection of spells of a German Master Sorcerer which had gone up in flames. They all agreed.
"Especially since they contained a new kind of illusion', Maurice added.
"Really? But why didn't the ward-off spell work? Faulty casting?"
"It seems there wasn't any. They have a shortage of Force in Germany, you know. They sold nearly all of it to Italy, the fools. God knows what terrible uses the Italians will put it to." "But isn't there a law in Germany against selling Force?", Jeanne asked. "I thought they passed one just a year ago." "That's right, but there was a special disposition for this case. In Germany there is also a shortage of money, you know. Laws make way where money is involved."

James had been silent so far, smiling and enjoying the conversation. He remembered....

The rain poured down. He was soaked already. There was no sign of the sky clearing, and, worse, dusk was drawing near. If he did not find shelter soon, he would be an easy prey for the wolves which, he was sure, were lurking behind every hill. For the tenth time he looked around him. According to the farmer he had talked to this afternoon, there should have been an inn miles ago. He must have lost his way. But wait! Wasn't that a light far away to the left? Immediately James turned, his pace quickening. Soon he saw he had been right: on the top of a hill there was a small house, its outline barely visible against the darkening skies. Inside, a fire seemed to be burning. The last hundred yards he ran.
James knocked at the door, not worrying who the inhabitants of the house might be: thieves perhaps, or worse. His life was at stake! But when the door opened he began to regret his haste: in the doorway was a tall figure, his face concealed by the darkness; and in his right hand was a mighty mace, lifted in a threatening gesture. James tried to turn around and flee, but he found himself unable to move. Terrified, he watched the man, who in his turn fixed James with a searching look from invisible eyes. Finally he put down his mace, and said in a surprisingly kind voice: "Come in, my boy. It is no weather to be outside."

Relieved, James followed the man inside into the only room. A large fire was burning. James, dropping his coat and bag in a corner indicated by the man, felt the life and warmth creep back into his numb body. Only now did he realize how cold he had been. An hour later, he was sitting comfortably in front of the fireplace. He had introduced himself as James Douglas and, suddenly weary from passing himself off as someone else, he had told the rest of his story: how his father intended to have his son see something of the world before he would bury himself in the calm and uneventful life of Lord Douglas, Earl of Darvon, and how he had journeyed for two months through England and France. His host had told him only his name: Maurice. But now, as sleep started to overcome James, he said: "You must wonder who I am, why I am living here, what my occupation is."
James, suddenly wide awake again, tried to say he didn't care, but the man replied: "Oh, but you do care. I can see that clearly. You know, I am a member of the Alchemist Order." When James looked blank, he went on: "But perhaps you don't have a division of the Order in Scotland, so you wouldn't know what I am talking about."
"The Alchemists are a group of people trying to discover laws of order in nature and find ways to use them. It is not an easy task, for there are many who are ill-disposed towards us, especially the Church. Still, we have achieved some results, and I think soon we will be recognized as doing important work."
James suddenly remembered something his father had said about a group of maniacs claiming to know things God had intended man not to know, and said: "Do you have anything to do with magic?" Maurice, reading the expression on James" face, said spitefully: "I see you have already been prejudiced. I don't know who told you about it,
but it must have been someone who didn't really know us. Yes, our science is alternatively called "magic", although we use the word "alchemy" ourselves."

James, not wanting to appear prejudiced, hastened to say he had nothing against magic, that he had heard something about it that seemed unfavourable but that he would be glad to exchange his opinion for a better one.
Maurice had hardly listened. He said: "You see, I had hoped to persuade you to travel with me to Lyons, where our main residence is. I have to go there in a week, and I'd rather not travel alone. I judged you to be interested. But I see I was wrong."
James didn't know how to react. He was embarrassed by the trust the man had evidently put in him, and ashamed to breach that trust. Further, he had no idea where to go next, and Lyons seemed as good a place as any. So he said: "Really, I have no objection to going to Lyons. Actually, you have made me curious."
"How is one initiated into the secrets of the Alchemist Order?", James asked. They were more than halfway to Lyons and by this time James had really become interested in the Order. He was intellectually attracted to the ideas of the Alchemists, and much less so to a dull, uneventful life as an Earl.
"Oh, well, there is a school. It isn't really initiation. After all, we aren't just another cult: we are trying to avoid just that impression. But on the other hand, not everyone can enroll. You have to have good references, and there is an intelligence test."
"Are you good enough as a reference?" James asked the question straight. As he had expected, Maurice showed no surprise. "I should hope so. And I'm sure you'd pass the test, to spare you the question."

Life was good, James contemplated. The school was every bit as enjoyable as he had hoped. He didn't know what his father would think, but he didn't care. In fact he thought of never returning at all to his home country. In his memory it always rained in Darvon.
He had made a few friends among the apprentice sorcerers. One in particular: a lively little Spaniard, Felix Panid. They had a good deal in common: Felix" father was a Spanish nobleman who had wanted his son to see something of the world before taking over his father's estate -not expecting him to stray into alchemy. They also had a common interest in girls; the only reason why this didn't injure but strengthened the friendship was their agreement to let the one of them who discovered a girl first have her -that is, if she would have him.
In the case of Jeanne, it was James. He managed to inspire her so much that she enrolled too, to become the only girl in the history of alchemy. It took the support of Maurice to manage this.

After dinner, James took the floor.
"Although it has been pleasant enough to remember things and to talk about the past years, actually I have invited you for one thing especially."


PLATE XXIV
Alchemist, 17th century

The guests became alert, for they knew that when James talked this way he had something important to say.
"You know I have led the life of a hermit for the last ten years. You must have wondered why. There have been rumours, I know, of me going crazy at last, or being under the influence of a spell of seclusion, or God knows what. I hope you three didn't believe a word of that."
"Well, actually", Felix began but James waved him silent.
"I have been doing some very complicated research: so complicated that it has taken me all this time to complete it. Of course I could have asked for help from the Order, but actually I thought what I was doing might be dangerous, and if there was an accident, well, the fewer people involved the better."
"But", Felix tried again, and again James gestured him to be silent. "Patience, Felix. I want to tell it in my own way."
"I'll give you the outlines of what my research was about."
"Jeanne, do you remember how interested I was in your efforts to formulate the Calen postulates in terms of straight and curved? You showed clearly that it should be possible to construct entities that could serve as reservoirs of Force. From that idea I have constructed the Alphabet." The others nodded. The Magic Alphabet had been a major achievement, the first time James" name had reached the ears of every alchemist in the world.
"The Alphabet, however, is a limited tool. The main problem is its two-dimensionality, its lack of depth. It is like a shallow pool, easily filled and as easily drained.
"The logical thing is to try to construct an entity which is not two- but threedimensional! Such an entity should have a really enormous capacity for Force, in proportion to the capacity of the Alphabet as the ocean is to the pool.
"This I have done."
There were gasps of surprise from the small audience, but James ignored them and went on.
"It was not easy. First, the mathematical parameters of such an entity had to be calculated. As you know, the straight/curved ratio must be exactly equal to unity: in dealing with immeasurable quantities of Force such as in this entity one cannot allow even a tiny fraction to escape. It took me a year to construct a model in which the balance was perfect."
"Constructing this mathematical model was simple compared to its realization. You see, a three-dimensional entity consists of planes in the same way that a twodimensional model -the letters of the alphabet- consists of lines. But a physical implementation of planes or lines is impossible because there is always a certain width associated with them. This is why the alphabet cannot be perfect: the lines have width, and as a result dissipation occurs. But I could not allow dissipation in my threedimensional entity."
"It took me three years of experimentation before I hit upon the idea of constructing
the entity not of matter but of Force itself. A Force plane has no width, for it is equivalent to its mathematical description."
"At this point, I found your publications on the connection between Force and matter invaluable, Maurice. The Force planes cannot exist by themselves: they must be connected in some way with matter. The main problem is that the planes may not be deformed by the connection. The material serves only to give the entity a hold on reality, and may exercise absolutely no influence over it."
"I worried a great deal about the way in which the entity should be filled once it was constructed. Where should I get the water to fill the sea? Fortunately the analogy doesn't hold further than this. It is an unexpected but lucky consequence of the Fourth Calenate that causes the entity to be filled once it is constructed. The seabed is filled with water supply because it is a seabed. It is the ideal place for water to be. But water isn't created: the filling of the sea causes drought elsewhere."
"In other words, the entity attracts Force from all that surrounds it by its mere existence. It will never empty, as long as there is Force left in this world to fill it."
"By the same rule, the Magic Alphabet should become an infinite source of Force were it written in perfect lines without width. Unfortunately, it is not possible to shape Force into perfect lines as it can be shaped into perfect planes, or we wouldn't need the third dimension at all."
"Only one thing remained to be done: to find a way to release the Force stored within the entity. This was relatively easily achieved after all the trouble I had taken to prevent the Force from being released. All that is needed is to distort the straight/curved ratio by a small amount. This can be done with the Force handling spells Felix designed." "The result is this."
James took from a cloth he had put on the table a small cube and showed it to his friends. The edges of the cube consisted of metal strips. It was not impressive in shape or size. But inside the cube...
Inside the cube was a system of planes, here curving, there straight, cutting each other at what ought to be impossible angles. The eye was trapped, trying to follow planes into the void, deeper and deeper, on the edge of belief. Inside the cube was a power only felt, always behind the curve of an unexpected crossroads, fleeing from sight and yet present everywhere. Inside the cube was a spectacle of dazzling colours, sparkling, twinkling, yet all of the same absolute black. Yet the cube...was empty.
James covered it with the cloth in which it had been wrapped and watched his friends" reactions. For three full seconds they stared at where the cube had been, with uncomprehending eyes. Then they started, as if awakened from a deep dream. In confusion they looked around. Then came the shouts, the excitement, the admiration, the questions.
"What are you going to do with it?", Jeanne asked. It was the afternoon of the next day. They had gone to bed late and had skipped breakfast. Now they had gathered again and were discussing the "entity".

James shrugged. "I haven't given it a thought yet. I'll give it to the Order, I suppose. It is much too dangerous for an individual to possess. Unlimited Force! Just think what a weapon it would be!"
"Well, I think it will be duplicated soon enough", Jeanne said. "In another ten years it will be standard equipment for every sorcerer!" But James denied this: "Impossible. The Strain Principle would not allow it. I have calculated the possibility beforehand, to be sure it could be done the first time. Duplication would mean an end to the universe."
"Can it be destroyed?', Maurice asked. "I suppose it is not possible to strengthen the metal magically?"
"That's right. It would deform the planes and that would be disastrous. I tried to construct the metal strips as rigidly as possible and there is a certain amount of rigidity in the planes themselves, but I think it would be quite easy to destroy it. A heavy stone would do it."
"What would happen?"
"What do you think would happen?" They laughed.
At the end of the week they were overcome with admiration. James had shown them his workshop, explained his experiments, and given the results of the painstaking research of a decade. Ten years of hard work concentrated into a single week had left little room for anything else.
James went with them when they left. He took the entity (as he called it) with him, intending to give it to the Order. Jeanne and Felix lived at Lyons, where the main residence was, and where James needed to be. Maurice would accompany them only as far as Normandy, where he still lived in the same cottage where James had first met him.
When they arrived, the news of James' creation had preceded them -James suspected that Maurice had a hand in that- and the three of them were received as kings. James was awarded the title of Grand Master of the Order and was appointed senator for life, an honour normally reserved only for French and Spanish members of the Order.

Having little mind to return to his lonely castle so soon, James stayed at Lyons, where eventually he married Jeanne and made his home. Being a great sorcerer, he didn't find it difficult to convince his Scottish acquaintances that he was dead and had been so even before the time he left for France. Hence the historical version of the story has come down to us with James dying young and childless, while we know that he lived a long and happy life.


PLATE XXV
Glassware used by James Douglas

# Magic Signs \& Alphabets 

## As developed in Arendarvon Castle

## by <br> Dr.Th. A.T. Knowles

Of all the centers of alchemy in Great Britain, Arendarvon Castle in Scotland must be the richest source of information about the ancient lore. Much knowledge has survived in the books of the Arendarvon library. There are still branches of the science that we are quite ignorant of. One of those is the so-called magic script, by which is meant everything concerning the writing down of magic spells. This article is the first to broach the subject.

Magic script is relatively new among the achievements of the science. It was largely neglected at first, understandably so, for developments were very exciting in other areas of magic, such as spell construction and Force investigation. The actual lettering of the document in which these developments were put down seemed quite unimportant in comparison. However, there came a time when the pace slackened and the question arose whether it was not really an inefficient way to write
down such strong words in an everyday script. Research began on a new and better way of storing magic. Various alphabets resulted, among them some very subtle ones. But our interest is only in the radical developments made by the illustrious Douglas of Arendarvon Castle (about whom we wrote two months ago), who was the first to use the concepts of "straight" and "curved" in his work.

## The Force

"Straight" and "curved" are the basic concepts of magic, the underlying theme of every achievement. From the tension between straight and curved the first theorems were deducted along with the famous Four Postulates (alternatively called the Calenates) of Cale Benal, founder of the scientific approach to magic. In short, this tension is the origin of the so-called magic force (or just Force). Every single act of magic uses the Force. The most difficult part of magic is to handle the Force, to generate it in sizeable amounts and to store it in an accessible way.

Douglas approached the matter of magic script from a new angle. He regarded writing as a specific form of storing information, and he connected the idea of stored information with the problem of storing magic. Specifically, he constructed an alphabet in which the letters themselves are a reservoir of Force. How this was done will be described below. The alphabet of Douglas has some important advantages over the ordinary alphabet. First, the alphabet could be used to store a surplus of Force, if by accident such a surplus was created. In this way an age-old problem was solved. There has been much loss due to the careless creation of large amounts of Force which could not be used up. There is a remarkable resemblance to the waste of fossile fuels in the last century.

The Force stored in the Douglas alphabet could be released at any time by reading aloud the words. This is the basis of a second, even more important advantage: the Force needed for using a spell could be provided for by putting it in the words of the spell. The need
for complex preparations at the time of execution of a spell would be removed: everything could be prepared beforehand at a more convenient moment. The consequences of this are clear. There are also some minor disadvantages. For instance, a spell prepared in this way could be used by anyone who happened to come into possession of the document. Also, the spell could be used only once, the Force having been lost the second time. Moreover, for very powerful or very short spells not all the Force needed for using the spell could be squeezed into the writing, so there would still have to be another source of Force.

Perhaps there might have been adaptations in order to overcome these disadvantages. Unfortunately there was no time for that. Shortly after the introduction of Douglas" alphabet, magic ceased to be applied altogether, for reasons that are not entirely clear. It was four centuries before the thread was taken up again, and much of the knowledge of former times has never been regained.

## Signs

In addition to the alphabet, Douglas invented several magic signs for more specific purposes. To be particular, he started to devise a system of signs for giving directions in the process of preparing magic. The idea was to convey as much information in as little space as possible, because the process is often both complex and laborious, and small errors can have disastrous consequences. In this situation no time must be lost in reading
instructions: they must be taken in at a glance. The message must be concentrated.

Douglas never finished this project: the event of his "death" stood in the way. (About the circumstances of this death you should read our issue of two months ago.) To study the application of the alphabet described above one should visit Arendarvon Castle, the place where it was invented. Logically, this is also the place where most of the writings that use the alphabet remain -in fact, almost every known writing concerning magic and employing the Douglas alphabet is either written by Douglas himself or stems from his library.

Unfortunately, the library itself is not open to the public, but there are some exam-
ples of magic writing exhibited in the Museum. Moreover, in the so-called sitting-room is a message on the wall of which the "Guide to Arendarvon Castle" says that "many experts have been baffled in an attempt to provide an explanation". Apparently they do not possess the correct knowledge. The lettering strongly resembles the Douglas magic alphabet. The words are meaningless. This is clearly an example of the alphabet being used to store a temporary surplus of magic force. The Force has gone long since, either by the deliberate speaking of the words or by dissipation.


## The Alphabet

Until now, the alphabet itself has not been discussed, because we do not know as much about it as we would like to before offering factual information to the reader. However, we cannot omit the subject, so we will try to cover it as thoroughly as possible. The complete alphabet is given here. Looking at it, there are a few peculiarities that strike one immediately.

First, there are no vowels, only consonants. The reason for this is that four centuries ago, pronunciation of words was not prede-
termined in any way, and particularly the vowels varied widely in pronunciation. This applies even today: dialect (not accent) is

## b <br> B <br> C <br> D <br>  <br> GH <br> H

## ₹ <br> K <br> ) <br> L <br> M <br> P <br> P <br> 0 <br> Q <br> R


S

TH

V
$\downarrow$
W

Z
determined by the pronunciation of vowels much more than of consonants. In order to know beforehand the pronunciation of the letters that were written down, vowels were kept out of the alphabet altogether. It should be noted that exactly the same was the case in old Hebrew: the vowels were kept out of the Hebrew script, and the reader had to fill them in for himself. However, the reason for this in Hebrew is quite different from the reason in magic script.

Actually, the no-vowel rule was often broken by users of the alphabet other than Douglas himself. Itseems people found it hard to read words without vowels. The vowels were sometimes inserted in unmodified form from the normal alphabet, which must have diminished the power of the Force in the script greatly. A compromise was found in putting the vowels down as subscripts to the words to which they belonged. Again, this development parallels changes in the Hebrew script.

Second among the peculiarities of the Douglas alphabet is the introduction of some new consonants, and the disappearance of some others. Once again, the aim was to keep pronunciation of the letters uniform and general. The consonants of the magic script always have the same sound and are always pronounced in the same way.

Third, the shape of the letters has been altered slightly. Although not the most obvious of the properties of the new alphabet, this is certainly the most important. In our every-
day alphabet, the shape of the letters is determined historically. No one knows why letters are shaped in a particular way, for there is no logical background. In fact the letters are shaped arbitrarily, under the condition that they remain easy to write. The letters of the Douglas alphabet are conciously shaped to balance the "straight" and "curved" concepts and yet be as much like the corresponding "normal" letter as possible. The balance between "straight" and "curved" is very difficult to reach, and this is the greatest achievement of the alphabet. It is this balance that makes possible the storing of a certain amount of Force in a letter. It acts as an insulator against any disturbing influence, and actually "locks" the Force contained within. The "key" to this "lock" is the pronunciation of the letters. To make the "key" fit, the writing material must undergo a painstaking preparation. The preparation is described below. Here we find the reason why vowels are left out and some of the consonants changed. To be certain that the "key" of pronouncing each letter releases the Force "locked" in it, one must be sure of the exact pronunciation. Those letters that are pronounced differently on each occasion of use and from person to person are left out of the alphabet altogether.

## Preparation

The preparation of magic script is a long and tedious affair. It is not enough to write down the letters; it is not even enough to enchant the script after having written it. In order to lock magic force in a letter, it is necessary to have it available in a free form throughout the process of writing.

This means having an assistant to create Force in the right amounts so that the magician can handle it with his mind and can force it into the letters he is writing; or if there is no one to assist a large reservoir of Force is needed of which the magician can make use by releasing it in manageable amounts.

Of course this is more easily said than
done. For instance, the trick of capturing the Force in the letters by handling it with the mind requires much training, careful mental preparation, skill, concentration and feeling. Knowledge of the amounts of Force that can be squeezed into each letter comes only through experience. Undoubtedly much Force has been lost in gaining this experience.

## Dissipation

Normally, it would be enough to write the spell on ordinary paper. However, in cases where durability is needed or a large concentration of Force is expected, a problem of dissipation arises.

Locking the Force in the letters would be sufficient if there were no need to write them down. Unfortunately there is such a need, and most writing materials are sensitive to magic force. There is a reaction between the magic and the paper: the paper is affected by the Force, and as a result some of the Force is lost. This is called dissipation.

To check this process, it is enough to make the paper resistant to magic Force. Much research has gone into the development of some such paper. Unfortunately, the re-
results of this research have been lost, although we do know that some advances were made.

As is all too often the case, we know the achievements of our ancestors, but cannot reproduce them. Essential information has not reached us and probably never will. The readers of this magazine will be familiar with the difficulties of researching magic: nobody takes it seriously. Consequently, there are few opportunities of identifying magic script.

# IN OUR NEXT ISSUE: <br> Magic Signs \& Alphabets Of the Far East <br> by Dr. Th. A. T. Knowles 

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## But you cannot borrow there

As a subject for study at university, "magic" would raise many an eyebrow. The word is concatenated with childhood fairy tales. No adult would accept the idea of magic as a science. However, five centuries ago "magic" (called "alchemy" by the upper classes) had quite another status. It was regarded by a surprisingly large group of people as a serious affair. The attitude towards magic then was much the same as towards modern sciences now.

Our knowledge of this subject is limited to the few writings that remain. The largest collection of books on magic is in the library of Arendarvon Castle, an impressive medieval bulwark in the county of Darvon in the NorthWest of Scotland. This castle was the site of the British division of the Alchemist Movement in the late Middle Ages (1500-1600 AD) The reason for the existence of this outpost was that the owner of the castle, Sir James Douglas, was an active member of the Alchemist Movement (or Alchemist Order). Actually, alchemy was popular mainly in France and Spain.
James Douglas was also the founder of the library. It was maintained and enlarged by the subsequent owners of the castle. Whether they regarded the collection as a curiosity or as an object of prestige (or both) is not certain. The library is still privately owned, and to obtain permission for a visit is not easy. This is understandable: the books are irreplaceable. The library has been an important object of study recently. Three Oxford lecturers have visited the library regularly for the last few years. Two are professors in history and chemistry respectively, and the third is a Doctor of Psychology. What is their interest in magic?

Professor Doctor Connar teaches history. His interest in the Alchemist Order is directly related to his work: he is investigating the role of the Order in medieval society. The Arendarvon library is for him an important source of information. "Nearly
every work of importance is in the tion", he said, "theoretically one co construct everything that happened fr material there".

What has he discovered sofar?"The mist Movement is never taken at its value. I want to find recognition fo scientists-for that is what they were." my, says Professor Connar, was ba mathematical postulates and theories. ments and research were carried ot scientifically. "Alchemy" is the termt used by the members of the Order them To other people the science was kno "magic". Professor Connar: "Both and alchemy had quite another meanir than they have now. First, there was I supernatural or mystical about magic. equivalent to alchemy. The word has sh meaning since, because magic as a suddenly ceased to exist and the new tion looked upon the magical results ti been achieved as impossible. Still lat word magic was used for everythir


Relic from past: Book of Magic

impossible and was considered superThat is why it is better to use alchemy fmagic to refer to the science. But the lchemy" has also shifted in meaning. me to be identified with those memthe Order who were interested only in daway in which to make it out of base They were frowned upon by the true ist of that time."
edden end to magic as a science is still ry to Professor Connar: "It seems to alchemy was at its height as a science didenly it vanished. I have absolutely us to the cause. But this is one of the lhope to find out."
role did alchemy play in history? thg to the professor that role could be pre important than is realized. Alchenot as obscure and little-known as d. In fact, alchemists were held in ythe leaders of that time. Councilmen enchosen from the Alchemist Order. mopular interest was directed more at dical achievements of the science than cience itself. This is understandable remained so even in our own times. we thrilled by chemistry, of which the ut visible everywhere, but quantum is have little public attention, bety do not show spectacular results. crall, the purely scientific approach to ns not as important as the practical It it is the scientific approach that Professor Connar most of all, beshows that scientific thinking is not ng unique to this time.
wher Oxford professor who has down interest in the Arendarvon lirary is Professor Dr More. He teaches yy. For him, the library is a source of Hion about the origins of his work. TMore: "In my opinion, knowledge istory of science is very important in ending exactly why science is what it ettably, the origins of chemistry are all
too often ignored. Approaching a science like chemistry in the light of modern achievements stimulates ivory-tower thinking. I feel that a closer familiarity with the foundations of chemistry would result in a deeper insight into the task of the chemist."

According to Professor More, the history of chemistry has hardly been investigated. In contrast to, for instance, physics, chemistry can claim no popular knowledge of its history. Gallileo, Newton, Einstein: everyone knows who they were if not what they have done. There are no similar celebrities in the hisory of chemistry. The professor intends to change this. But why exactly has he set on alchemy as being the ancestor of chemistry? Professor More: "The link between alchemy and chemistry should be fairly obvious. Etymologically the words are clearly related. The first came to an end in the 17th century, the second picked up the thread at the beginning of this century. Of course some work has been done in the intervening centuries, but hardly anything spectacular was discovered; so little, in fact, that the first real chemists had only the work of the alchemists on which to base their studies.
The Arendarvon library provides an almost complete record of the alchemists" achievements. "It is unbelievable", says Professor More, "that such a formidable store of scientific knowledge should have gone unnoticed for almost three centuries. Of course there is a lot of chaff between the corn, nonsensical documents about magic and the philosophers" stone. The alchemists were easily diverted from real science. However, on the whole the Arendarvon library is a fountain of knowledge about the history of chemistry."

Quite another way of looking at alchemy is propagated by Dr Kindorn, an Oxford graduate whose subject is psychology. He has new ideas about the underlying motifs of alchemy. His thesis concerns the probable relationship between the decline of the Catholic Church and the rise of alchemy. Frustrations which had always been expressed in Church ritual needed another outlet. Dr. Kindorn: "Every one of the alchemists" or magicians" tools were symbolic. It is quite obvious to anyone with any knowledge of Freud's theories how concepts such as phallic symbols, longing for the womb and the Oedipus complex are woven into the pattern of alchemist actions."

According to the doctor, the alchemist movement in itself was of no importance. The only interesting thing about the movement is the light it sheds upon our deepest frustrations. Dr. Kindorn, too, considers the Arendarvon library an invaluable research center: "It is a shame that such important psychological material should be kept in an obscure musty castle like this. It would be far better to have it moved to a university library such as Oxford's." Unfortunately for the doctor it is illegal to have the books moved.

The library remains a unique collection of relics from pasttimes. Whatever the truth may be about the Alchemist Movement, their work constitutes a way of thinking now extinct. That is why we are thrilled by the collection; and that is why we can learn so much from those books and documents.-By Robert c. Moore. Reported by Diana Furrier and C.C. Bean/ London







## From a medieval diary found in the Library of Arendarotn Castle. Translated by Prot. Dr. O: M. T. Kronhofen To be published in the Journal of the Supernatural.

I am Zazar the Great, most powerful of the Order of Magicians, and this is my story of ill fortune. May those who read it take heed and not repeat my mistakes.
Hear of my deeds of over-confidence: I trusted too much the fair talk of Borozar, thrice-damned foe of humanity. I held a high opinion of this fellow, he who turned out to be the most dangerous man of our era. I even made him keeper of the most secret, most valuable possessions of our Order. Now my grief overwhelms me, because this man, this unspeakable villain proved completely unworthy of every grace bestowed upon him, and vanished, taking with him the possession of which he was the guardian.
The Order is now in the most serious plight of our days or the days of our ancestors. If these matters are not arranged satisfactorily, then surely we will diminish and dwindle, until death overtakes the last of us, and the end will come to an era of unsurpassed scientific knowledge. For Borozar took with him the largest of resources of magical force, the pure works of magic, wrought decades ago in a manner that may not be repeated, for this would too much of the astral force and the universe would shatter under the strain.
I have cast a search-spell, and know now that the fiend has retreated to Arendarvon Castle, where Douglas, Grand Master of the Order, toiled half a
century ago to complete the last and greatest of the magic works that Borozar took with him.
I have examined the aura of the Castle and have found that it is almost completely locked off. Not the might of all those left in the Order united could break the lock. To accomplish this feat, Borozar must have made use of forbidden knowledge, which proves that there is even more amiss than was suspected; besides, the locking of the Castle must have used most of the force in the magic works. But what is left should suffice for one person for thousands of years.
We cannot but try to recover the stolen goods. For in addition to the magic works, Borozar took with him a collection of the mightiest spells inter canem et lupum, seven in all, with which great mischief can be wrought upon humanity when put to evil use.

Only one solution remains. I must send forth my spirit through the aeons, submerge my whole into the astral plane. The condition of my return will be the speaking of the magic word which I will put down in this manuscript. I must take care that it will not be spoken until the lock has lost its power, which must happen within five centuries; for once spoken, the word will lose its power.
This asks a great deal of me, for it will cost all the magic force left me, so that I will cease to exist in the world of the living. But since I am responsible for the damage, I cannot deny the burden.

Who is prepared to end the quest;
speak this word for mankind's best:




# Playing This Adventure-Game 

## You:

In this adventure-game, you play the role of the journalist who, writing an article about Arendarvon Castle, accidentally spoke the magic word that released the powers stored long ago by Zazar the Great.

Although your situation is desperate, you are at a great advantage: as a preparation for the article, you collected lots of information about the castle, its history and architecture. While playing, you can always go back to the dossier and try to find out something about some particular detail that has been worrying you for hours, thereby not only -possibly- finding a clue to the further play, but also -hopefully- enjoying yourself a lot.

## You \& The Computer:

If this is not the first time you have played an adventure game, some of the following may be familiar to you. However, there is also a discussion of some features that are unique to this adventure, so it may be a good idea to read it anyway.

Since the process of typing in the program is described elsewhere, we will assume that this has already been done. Everything is set, you are eager to start playing.

The first thing to do is to read the book. Of course you can also start playing right away, but that way you will not enjoy the game half as much. By reading the book you will get a better idea of your environment, the castle where you will spend a good deal of your time -or so we hope! It is not necessary at all to know the book by heart, certainly not the first time you play. You can use it as a reference instead, a guide to consult when you are stuck. Gradually, as you become more familiar with the easy parts of the adventure, you will find that you do not know all you would want to about, for instance, the general layout of the castle, and at that point you should go back to the book, and try to figure out whether there is space for that secret passage you had suspected.

About playing the game, much could be said. As hardened adventurers will tell you, you must not give up the first time you run into trouble, but try and try again, knowing there must be a way out -there is always a way out.

In this adventure, the player has an advantage he does not normally have in other adventures, where all too often he is left in the dark about what verbs he can use in a particular situation. It then happens frequently that you know exactly what to do, but you do not know how to make the computer understand. In such cases, it is a matter of thinking up every verb wanted you to use.

We regard this as a contamination of the adventure game. It seems unnatural that a player should in any way be unable to make the computer understand what he wants to do. Obviously, there are a number of ways of overcoming this problem. One is to incorporate in the program not one verb for every situation, but a great number of verbs -so many that whatever the player types in will be recognized by the program. This is certainly the best method, but equally not the most economical, for it uses a lot of memory space, and will result in a delay while the computer looks through the list of verbs every time an instruction is entered.

A second way of solving the problem of 'user-friendliness' is followed in this adventure. There are just a few dedicated verbs, but their uses are defined very strictly, and you -the player- are told exactly how you can use a verb. If you want something done, you can search the comparatively short list of verbs for the correct one; and if you don't find an appropriate verb, why, then obviously it can't be done!

Certainly it is a pity that you can't use every English verb in existence, but just a small subset. Still, this does not limit the flexibility of play, and we consider this approach infinitely better than having to use a dictionary every time you want to do something less simple than 'go north'.

In general, the problem of choosing the right verb for the occasion can be seen as part of the problem of the 'man-machine interface'.

You make your moves by giving instructions. Unfortunately however, the ability of a computer to understand human language is limited -or rather, it is difficult to program a computer to do so. This is why computer languages were developed in the first place. English is too complicated.

The term 'user-friendliness' is understood to mean the extent to which the user of a program -be it a business-program or a game- can enter the information that the computer needs in an easy way. In an adventure program, user-friendliness should result in the possibility of entering the instructions in 'normal' English sentences. But, the problem of translation means that these sentences must not be too complicated. 'Go to the door' is all right, but something like 'convince the thief I have nothing of value' is not.

The part of the program that accepts the sentences and 'translates' them into code understandable to the computer is called the parser. The more complicated the parser, the more complicated, generally, the sentences understood.

One adventure famous for its parser -and rightly so- is The Hobbit. On the other hand, there are many adventures that take only one-word instructions: 'take', 'kill' etc. Arendarvon Castle's parser is more complicated than most, although it falls short of the beauty of the parser of The Hobbit.

To understand the mechanics of our parser, it would be necessary to explain the general set-up of the whole program. We assume that this will not interest most prospective players, so it is not discussed here.

For the parser to recognize a word, it must be typed in in the same form as it is stored in the memory. This means that there is often only one way to describe an object. If you are told you see a 'chair', the computer will not understand the word 'seat' in its place. This is to be expected, but there are complications. If there are two doors to the room you are in, a red door and a yellow door, you must instruct the computer 'open yellow door' instead of just 'open door' which is also quite natural. But if you go through the yellow door, and you want to close it again, you must still type 'close yellow door', although there may be no other door in sight. The same principles apply when dealing with objects.

In conclusion, if something is described with two words, to handle it you should try both words before giving up.

## The Computer:

In every adventure game, a problem arises from the fact that a computer cannot simulate reality perfectly. There are bound to be some unnatural effects. A very common example in an adventure game is that you may not carry more than a certain number of things at one time -but it does not matter whether those things are pieces of paper or lead balls. To this particular example, we have chosen a different solution: not the number of objects is limited, but your strength is diminished by the weight of the objects; if your strength diminishes to zero, you can't move any more, and in a short while you die from exhaustion. The solution in such a case is to drop something heavy, of course.

Another instance in which the adventure-reality differs from the world we live in can be explained by depicting a vase with flowers in it. If you take one flower from the vase, there will still be a vase with flowers in it, or so you would think. But it is easy to see that it would be quite complicated for the programmer to enable the player to take the flowers one by one from the vase; it would require that the computer knows the difference between all those flowers, which implies that it knows, for instance, twenty objects called 'flower' which can be handled separately from each other, but put together in a vase must be called 'flowers'.

In this and many other cases compromises must be found. Often, the best solution is the least economical, so there is a trade-off between reality and computer memory.

Finally, there are some unrealistic effects in the text generated by the computer while you play the game. These again stem from the complexity
of human language. We will illustrate this by example; if you enter the command 'I wish to go left', then the computer reads 'I' and assumes that you want an inventory. Use the words 'I' or 'in' carefully, so that the computer does not confuse them with a request for an inventory.
Abbreviations may be used but with care! For instance the abbreviation 'lo' for 'look' will be taken by the computer to mean 'load' because this comes first in the alphabetical order of commands.

## The Spells:

Before sending you on the search for The Secret of Arendarvon Castle, here are some details on the nature of the spells you are to find. There are eight spells in all, every one of which performs a different task. You may use the spells if you find it absolutely necessary, because the ultimate goal is to prevent the thief from using them, not to recover them unused. However, it would be preferable if the spells are returned whole.

Here is a description of the effects of each spell.

## 1. Home-spell

This spell is the oldest of all, and is valued more for its antiquity than for its practical use. For you, casting the spell would remove the effect of the secret word you have spoken, and so return you to the 'normal' world, thereby 'short-circuiting' your quest and ending it perhaps prematurely.

## 2. Invisibility-spell

In order to be able to wander at will without disturbance from non-wizards, the invisibility-spell was designed. The oldest kind of invisibility could only be ended by speaking a second spell; unavoidably some wizards forgot to prepare that second spell beforehand, and were doomed to live as ghosts for the rest of their lives. This particular spell, however, confers invisibility only for a short while.

## 3. Reveal-spell

Although quite complicated in design, the only function of this spell is to reveal the existence of any secret door or passage leading from the room where the spell is cast.

## 4. Disclose-spell

The purpose of this spell is somewhat like that of the previous one: not to reveal doors but to open them. In one respect this is a more flexible solution to the ancient problem of passing doors, because it is not restricted to secret doors but will open anything that can be opened. On the other hand, an opened door will not always stay open, whereas a door that has been revealed by casting the reveal-spell will remain visible and capable of being opened.

## 5. Light-spell

There is hardly an occasion when this spell is not included in the wizard's bag. Its applications are manifold.

## 6. Kill-spell

Always dangerous in the hands of a criminal is a weapon capable of killing anyone he happens to dislike. This spell is just such a weapon, and the person in whose possession it is currently is just such a criminal.

## 7. Charm-spell

At least as powerful, and possibly as dangerous, as the kill-spell is this charm-spell. Basically, its effect is exactly the opposite: someone influenced by the charm-spell sincerely believes you are his/her best friend, and will consider it his duty to fulfill all your desires. The only occasion on which the charm-effect will be undone is when you attack the victim or order him to attack a relative or friend. In addition, the victim may be able to work off the influence if in possession of considerable magic power himself.

## 8. Glow-spell

Considering the large number of different spell-designs and implementations, it is not surprising that there are some of which the exact purpose has been lost in time. This spell is one such, although there is a difference: its purpose has never been known. The spell was constructed by the famed Douglas himself a month before he died. The documentation concerning the spell-design was never finished. It has been rumoured that the spell was of a radical new kind, but nothing is known for certain.

## The Commands:

The Secret of Arendarvon Castle recognizes a set of 18 commands and 4 pseudo-commands. This means that, basically, 22 different actions can be undertaken by the player. As will be shown, this number is actually larger, because of a 'multi-purpose' command (USE).

All the commands and pseudo-commands (the difference will be explained shortly) are thoroughly discussed below. Their uses and possibilities are described in detail, so that you need never have trouble in getting your character to do something.

The commands fall into separate classes. First, we will discuss the classes, to give a better idea of the uses of the commands themselves.

## MOVE-COMMANDS

These are the commands that change the position of the player. To understand the changes caused by the commands, one must regard the position of any particular person as consisting of the location he is in and the direction he is facing. The move-commands may change any or both of these elements.

In this category are:

$$
\begin{aligned}
& \text { GO } \\
& \text { TURN } \\
& \text { CLIMB }
\end{aligned}
$$

## DOOR-HANDLING COMMANDS

These are the commands that change the status of a door - open, closed, locked, etc.

In this category are:
OPEN
CLOSE
LOCK
UNLOCK
STRIKE

## OBJECT-HANDLING COMMANDS

This large category contains all commands relating to objects. The effect
of the commands varies from taking things from the floor to smashing them.

In this category are:
TAKE
DROP
GIVE
PUT
STRIKE
USE

## PERSON INTERACTION COMMANDS

Playing the adventure, you will meet other people. These are inhabitants of the castle. To interact with them, there are only 2 commands. This is relatively few; however, there are other actions you may undertake that can change the attitude of the other persons indirectly -for instance, if you do something that angers them.

In this category are:

## GIVE

ATTACK

## DESCRIPTION COMMANDS

With these commands you can find out about your surroundings. This information is often helpful, or even essential, in playing the adventure.

The commands are:
LOOK
EXAMINE
MEASURE

## WAIT-COMMAND

Finally, there is one command for doing absolutely nothing. One may question the usefulness of such a command. However, situations may arise where you wish to let things develop on their own without undertaking any action.

The command is (naturally):
WAIT

## PSEUDO-COMMANDS

There are several instructions called 'pseudo-commands' which do not actually have an effect on the players surroundings. They perform a varied assortment of functions.

These are:
INVENTORY
SCORE
SAVE
LOAD
Although some pseudo-commands resemble closely the descriptioncommands, there is an important distinction. When you give a descriptioncommand, you will be given a description and the play will move on one turn. That is to say, looking around or examining something constitutes a move. In contrast, executing a pseudo-command does not constitute a move, and therefore it is not a command in the true sense of the word.

Now that you have a general idea of the commands, each command is discussed in detail. To do this, the following information is provided:

## Syntax of a command

To make the computer understand you, it is not enough to give a verb only. With most commands, extra information is needed, depending on the category of the command. To give an example, to take something you must type not only 'take' but also the name of the object you want to take.

There are three basic types of syntax:

1. Direction: You must specify the direction. Directions are: left, right, ahead, back.
2. Door: You must indicate a door, either by giving the name of the door (front door, back door etc.) or by giving the direction it is in.
3. Object: You must give the name of an object that is in the room you are in. If you give the name of an object that is not present, the computer will not understand you.

If a command is typed in without the appropriate syntax, the computer will ask for extra information.

## Effect of a command

There is an explanation of what will happen if you give the command. In many cases, the command is self-explanatory.

## Examples

There are some examples of the use of each particular command. The examples are not taken from the Secret of Arendarvon Castle; however, the situations are often similar.

## 1. GO

Syntax: Direction-class.
Effect: You turn in the specified direction, and walk ahead. If there is a passage in that direction, you go through and enter another room. Next, you are told the name of the room you have entered and whether there is someone else there.
N.B.: You can leave out the verb 'go' itself. If you give a direction only, the computer assumes that you want to go in that direction.
Examples: go left
ahead
go door
front door

## 2. TURN

Syntax: Direction-class.
Effect: You turn in the specified direction. Otherwise you don't move. Examples: turn back turn to the door

## 3. CLIMB

Syntax: Object-class.
Effect: You climb the object you specify. With some objects, you enter another room, for instance, by climbing down a ladder you enter the room below. Climbing something, however, never changes your orientation.
Examples: climb the hill
climb tree

## 4. OPEN

Syntax: Door-class.

Effect: You try to open the door you have specified. It may or may not open and you get the appropriate message.

## Examples: open ahead open door

## 5. CLOSE

| Syntax: | Door-class. |
| :--- | :--- |
| Effect: | The specified door closes. |
| Examples: | close the door to your left |
|  | close left |

## 6. LOCK

Syntax: Door-class.
Effect: If the door has a lock, and if you have the right key, the door will be locked.
Examples: see OPEN, CLOSE

## 7. UNLOCK

Syntax: Door-class.
Effect: If the door is locked, and if you have the right key, the door will be unlocked.
Examples: see OPEN, CLOSE

## 8. TAKE

Syntax: Object-class.
Effect: The object comes into your possession, on condition that it is not too heavy for you to carry. If it is a fluid, you drink it; if the object can be worn, you put it on.
Examples: take sword
take the coat

## 9. DROP

Syntax: Object-class.
Effect: If you were holding the object, it drops onto the floor. Examples: drop sword

Syntax: Object-class.
Effect: If there is a person in the same room, you offer the object to him/her. It may or may not be accepted; if not, you keep the object.
N.B.: In Arendarvon Castle, there is never more than one person in the same room as you, so there cannot be a mistake as to whom you want to give the object.
Examples: give lantern
give back the sword

## 11. PUT

Syntax: This is the only command requiring not one but two objects. Both the object you want to put and the object you want to put it in have to be specified; moreover, they both have to be in the same room as you.
Effect: 'put' is meant to put an object into some other object, for instance to put a number of items into a rucksack. When you have put something, it is actually inside the second object, so you will not notice the first object if you do not examine the second object -see EXAMINE.
Examples: put sword into scabbard
put flower into vase

## 12. STRIKE

Syntax: Object-class or direction-class or door-class. If no object is specified, the computer will assume you want to strike a door; if no door is specified, it will think you want to strike a wall. If on top of this no direction is given, or if there is no wall in that direction, the computer will ask for additional information.
Effect: This is one of the two commands that can have an effect on objects, doors and walls (the other such command is EXAMINE). Striking something is always done in order to damage it, although this will not always succeed immediately. Striking objects can cause them to break; striking doors can open them.
Examples: strike front door
strike back
strike watch

## 13. USE

Syntax: Object-class.
Effect: The effect of this command is not strictly defined: it depends on the object. If you want to do something with an object, but there is no command to do it, you can try 'use'. For instance, to light a match: since there is no command 'light', you can try 'use match'.
Examples: use match use syringe

## 14. ATTACK

Syntax: None: the verb alone is enough.
Effect: No person has to be specified, just as with 'give': there can be only one person in a room with you. You attack with the readiest weapon you have, with your hands if you have none. If you weaken your opponent past a given point, he dies.
Example: attack

## 15. LOOK

Syntax: None (see ATTACK)
Effect: If it is dark, you see nothing. Otherwise, you get the name and a description of your location. The description consists of the view in each direction -to your left, ahead, to your right, behind - and if there is something to see in that direction. Besides, you are told what objects you see and whether there is someone else in the room.
Example: look

## 16. EXAMINE

Syntax: Object-class, door-class or direction-class (see STRIKE).
Effect: Examining an object reveals what is in it. With most objects, there is nothing to be seen, but, for instance, in a vase there may be flowers, and in that case, if you type 'examine vase' you will be told that there are flowers inside. Also, if you have put something into another object, you will see it again only if you examine the second object.
Examining doors reveals something about their position: by examining it, you will come to know whether a door is open, clos-
ed, locked, etc.
Examples: examine vase
examine front door
examine the wall to the left
17. MEASURE

Syntax: None (see ATTACK).
Effect: You receive the dimensions of the room you are standing in as depth and width, depth meaning the distance between the walls behind you and in front of you, and width the distance between the walls to your left and to your right. By carefully measuring all the rooms you pass through you may be able to construct a map of the castle, and perhaps predict the situation of a secret passage in a blank spot on your map. More important, constructing a map can give you a better insight into the layout of your surroundings - it is a nice puzzle.
Example: measure
18. WAIT

Syntax: None (see ATTACK).
Effect: You do nothing at all. The game goes on without you. This can be useful if you want to wait for something to happen -a miracle, perhaps.
Example: wait

## PSEUDO-COMMANDS

## INVENTORY

Gets you a list of all the objects you are carrying at the moment.

## SCORE

Gives you a rating of your progression so far. The score is based on the number of interesting rooms you have visited, the number of important objects you have with you, whether these objects are damaged or not; further, your score increases if you have managed to return to the world and decreases if you die.

The maximum score you can achieve is 240 .

## SAVE

Saves the entire situation of all the persons, objects, etc. to be loaded again when you want to continue playing from this particular situation.

## LOAD

Loads a previously saved situation. After loading, the play continues from exactly the point where you saved it.

## Programming The Game

## The Construction:

This adventure is rather a large one. Were it written in BASIC, it would probably not fit in your computer. Therefore it has been necessary to encode large chunks of the program.

Unfortunately this creates problems. The encoded parts must be typed in in some form. To help in doing this, we have devised a way of making the code check itself, so that although you do not know exactly what you are typing, you need not worry about making errors; the code is errordetecting.

We have divided the work into several sections. We suggest that you take only one section a day, which should take you an estimated 1.5 hours. In this way we hope to prevent strain. Of course you may do it all in one day, if you like.

## Monday

The job consists of seven sections, called, not surprisingly, after the days of the week.

Every piece will be introduced with a short commentary, telling you what your homework is for that day.

Before you begin, however, we want you to remember:

- Do not be too afraid of making errors in the code. It is error detecting, and the chances of an error remaining undetected are very small - much smaller in fact than with BASIC programs.
- Always make a backup immediately after you have finished a piece of listing. Make a backup half-way on your disc-drive. Nothing is more frustrating than doing a job twice.

For Monday, you get three listings: one in BASIC and the other two in code. In fact, the BASIC listing is the decoder for all the following pieces of code.

First type in the basic listing. This is a very important job! Check the result thoroughly when you have done it. An error in this program will probably mean that you will never get your adventure to work.

Next, make a backup.

```
10 FEM ** IBM FC - DECODER **
20 CLEAR , उODOD
3@ READ LIN,IBAS%,LL,NOB
40 READ OUTBAS%,ADR,LSTADD
50 READ WD*: COUNT=COUNT +1
GD PRINT : FRINT LIN+COUNT*10;" ";
70 CODE%=|: GOSUB SØD: REM CHECKSUM
BØ SUM%=NEYTE%: CS%=|
90 FOR I=1 TO LL
100 GOSUB 300:REM NEXT BYTE
110 CS%=CS%+NEYTE%
120 IF ADR >= LSTADD THEN 210
130 IF NOB = 1 THEN 190
140 HB=INT (NBYTE%/127)
150 NBYTE%=NBYTE%-HE*127
160 IF NBYTE% = 13 THEN HB=-5
170 FOKE ADR,HB+5
180 ADR=ADR +1
190 FOKE ADR,NBYTE%
200 ADR=ADR+1
210 IF CS% >= OUTBAS% THEN CS% = CS% - OUTBAS%
220 NEXT
230 IF CODE% <> 1 THEN 250
240 IF CS%= SUM% THEN 270
250 PRINT
260 PRINT "CHECKSUM ERROR IN LINE ";LIN+COUNT*1D
270 IF ADR >= LSTADD THEN END
280 GOTO 50
3ØØ REM * NEXT BYTE *
310 IF CODE% >= OUTBAS% THEN 4||
320 IF LEN(WD:=) = 0 THEN 380
3डØ VL%=ASC (WD车) -55
340 PRINT LEFT事(WD$,1);
350 WD==MID* (WD*,2)
360 IF VL% = -23 THEN 320
370 IF VL% < 10 THEN VL%=VL%+7
380 CODE%=CODE%*IBAS%+ VL%
390 GOTO 310
4|D R 1%=INT (CODE%/DUTBAS%)
41| NBYTE%=CODE%- R1%*DUTEAS%
420 CODE%=R1%
430 REETURN
```

The program you have now, named decoder, will be a base for most of the other programs. This is illustrated by the code sections for today. The correct procedure is:

1. Load the decoder into your computer.
2. Add the lines of code to this program.
3. Save the resulting program and code.
4. Run the program. You will probably have made some errors in the code which will now be detected. The line number of any line where an error occurs appears on the screen.
5. Correct any error by comparing the faulty program with the original listing and changing the listing accordingly.
6. Repeat steps 4 and 5 until no errors are detected. The code is now errorfree. Save the result, taking care that any previous backup (made in step 3 ) of this part of the code is deleted, to prevent confusion with the correct version.

Both the code listings of today must be processed in this way; that is, they must be typed in as separate sections. Follow the procedure described above once for each section.

For the enthusiast: One code section for Monday contains all the data arrays used in the adventure: an array of all the rooms with their exits, an array of the objects with their locations, etc. The other section is the only part that actually contains machine code. This machine code uses all of the remaining code as input.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1010 | data | 0FII | SKCE | W5k4 | 7KQ8 | F54C | GUFN | ODTL | صउWH | 611 D | 4JEQ | IH |  |
| 1020 | DATA | 013 L | JWK5 | XFLS | sZXV | 4SZL | BSDU | SEDG | AOSN | M12F | H7UM | SxOC | 5 |
| 1030 | DATA | 066 G | SM53 | IPIN | OMHY | 5HM | AQNR | R2NA | RAGL | 210w | KXZK | SPAR | 2106 |
| 1040 | DATA | D4DE | 9FiNE | SDAD | axvy | L41C | 2AYt | RUXA | X8DK | TLAI | JLUS | YFJT | - |
| 1050 | DATA | D48R | LKJ2 | TWAX | 2FKT | LAYX | W1AH | DX8D | KTL9 | RJulu | SYFC | OCKT | LK15 |
| 1060 | DATA | 09MF | N5A3 | JU06 | 4FJT | MkUM | AmCo | D61F | JTDK | UMB6 | Qous | ZF4E | $2 K T L$ |
| 1070 | DATA | صSTE | 0D2P | H5z8 | ZH4Z | K0kJ | IX68 | 900x | VYL4 | 199 | 6990 | H00 | L |
| 1080 | dATA | DSFW | MX2F | KTL1 | If2U | GV9T | 8051 | ZL4F | PMUC | 8EEE | D2FA | 04 | 5 |
| 1090 | DATA | 01 NN | 165K | QKZR | XTED | 4TZL | 4FFM | UXN3 | 3JR1 | UOF' | FW4Z | AAL | LE45 |
| 1100 | DATA | صømS | LSSF | GJQJ | TZED | LNFO | zF1J | vDU0 | NSFW | IKWL | W. 331 | 4FFM | OI |
| 1110 | DATA | ص4TX | z®TZ | XCAV | 7F7T | LiFB | ØULS | QFDJ | I WAC | OIWS | 2NQ0 | OZVZ | FPGF |
| 1120 | DATA | 087 E | CLEY | 4LN7 | T®OU | Z41G | MVLS | QFDJ | 0FPZ1 | 8570 | RVLS | 9ADO | ZVYL |
| 1130 | DATA | øbuI | B23s | XHU9 | RTTD | OKQ | HJ4S | FNSO | 01DR | NP7T | L1I3 | UNYV | QKQa |
| 1140 | dATA | ¢438 | RYHB | HTCE | ZKCM | 1059 | 5679 | DOT2 | QIFE | DL8Y | ZRVT | EOT8 | $8 \mathrm{M65}$ |
| 1150 | DATA | ØCN5 | 30WK | ZR96 | M2J2 | 66UL | 8xUS | FJU4 | D056 | UDQE | KL7X | 18Z | X4RN |
| 1160 | DATA | $01 \times 2$ | FKG0 | 9PZG | 6KD7 | IRIN | 3MG3 | SMER | 70LD | YNGF | CF4Z | 3KSW | GFGJ |
| 1170 | DATA | 07H0 | CV66 | LGKE | CD6E | 24SE | 15XI | UD2F | A02J | 2K6L | SB2K | D7IR | GEDK |
| 1180 | DATA | 0326 | KT4G | FGJ2 | V6BU | LSEF | GJME | B70L | CY93 | S4IK | SWGF | GJou | FE9B |
| 1190 | DATA | ص0¢X | FGJJ | E2RP | B1BY | QPKW | 50J1 | MDIM | 01 MD | 1 MD 1 | MD1M | D1M0 | 1 MDI |
| 1200 | DATA | 0010 | ×1M0 | 1 TSF | U6HT | SQto | 3M01 | MZKM | 01 Ma | $1 \mathrm{MD1}$ | MD1M | 01 Ma | 1MD1 |
| 1210 | dATA | ص0c3 | MD1M | D1M® | $1 \mathrm{Mg1}$ | M®iU | J2GB | IECI | ØLSW | ZFDZ | 745M | WNIV | 7E56 |
| 1220 | DATA | $\square 0 \mathrm{DB}$ | 599k | H2RR | K2LD | 2xYo. | 650G | RZAZ | YHWV | CS4B | Z33E | V2E1 | BE05 |
| 1230 | DATA | ص03D | RIFS | 2E1B | E050 | DVIW | $7 E 56$ | 5900 | z5DZ | 5Dz | D25D | z5Dz | 5DZ |

990 REM IBM－MONDAY（2）
1000 DATA $1000,36,29,1,257,40000,41697$
1010 DATA ØロY7 5XFM YMAF HCBV 3RHJ ØW5B FBEF MZQI ØESE E59E 15DZ 5DZ5 1Ø2Ø DATA Øロ1E FSDZ 5DZ6 E75D Z5DZ 5DZ5 DZAD Z5DZ 5DZ5 DZ5D Z5ZE UN7K 1030 DATA ØBUF E日L6 H298 BØUK QDØL GYXX SH7E FSOI KN45 2XVP VQAB LI 88 $104 \square$ DATA ØØBC 2MK1 KBPV GYBA DCED 9ZH4 ZJME $95 Z \square 5 F 05$ DZ5Z F6FD 5DZ5 1050 DATA Ø1JB H2FK XKSY FDUD S5AZ 1017 8E65 L2L® AMZF 5XDZ J 1 US NW78 1 1Ø6ロ DATA ØØND DEE2 KUDZ PZEZ A1GL USYJ EAIS DAZ1 QØME E45E G5FC 9E95 $107 \square$ DATA $\square 47 Z$ DGZG उUK 1 KG4F EFL．S TAZ 1 B48H E45F 3516 N9FA QSDE $89 \times A$
 1090 DATA Ø19L 7RC6 RFFC USDA Z1QS OQE4 5GR5 JZNI QSXX KYKV LGFY UGZH 1100 DATA Ø1CB G4FA AG6C MVNV WCBS AKHF QIEU SAXA LNQD 5YJN G260 MEBM 1110 DATA D2CF NANY ØFFS KZY9 DNSR ZE9I DE45 H264 ANSF 5XOD DAVV HFYB 1120 DATA $02 Y Z$ Q9KS G410 NRCK AGFU ZBDZ 5ATN QS5Y JFWA SSAS BABY GE45 1130 DATA ロ2SY EGJS SRK1 KG4F LWDS DAZ1 Q6F＇E45E T56Z 1GL7 AD6J 4VJ6 1140 DATA Øロ50 APDØ FQ2G ADPE ØGE® 5HK7 L4ID ZMEØ $6 L 5 S$ DZSF CSEG 7E15 1150 DATA Øロ21 WRZE QI1E E15E 2AHM FHL7 EBBD Z9DZ 5ES5 HKEE Ø5E4 5DZ5 $116 \square$ DATA ØD22 75IØ EEDS E25D ZDE9 NE87 DZBE 65E8 5FC5 EG6E 5DHY 5L42 1170 DATA Øロ1J BEEG 7E29 EbSE ANEB 7DZB DZFE CHEH EE15 E25E ASDZ NE87 1180 DATA ØØ1F F5E2 GDZ5 DZNE 87DZ CDZL FTSE उ5E1 BE75 DZLZ ERDZ 7E2E 1190 DATA ØØ1H ZKEJ 5ED6 DZ7E 2DDZ 5L4Z I15E 18E5 SEIF L4ID ZMES BDZ5 1200 DATA ØD1X 21LM IDZM E4EZ WTEK LEDS E18E 7FDZ 5ZER DZ7E 2FDZ SZET 1210 DATA Øロ21 HTSB ØE2G DZXE NRHM TFUB EBSZ EUDZ $6 E 16$ E2BD ZVS9 VFCS 1220 DATA ØD1G RME4 BZEV DZUE WSEG 9ECS DZXZ ERSB 1E2E EQYE USED 7E2B 1230 DATA Øロ1F 5BDZ 5ETX EW7E G9ES YDZ5 NG2E 1 ME4 JZEW ZEVH M7FT BEDX 1240 DATA Ø16C Fi1H9 OIGA SS1F SUAS 7XHL 87TX YY2A 90BJ S1AR ZDSE AGJØ 1250 DATA ØロEF VSCR YCS1 RAE2 FS5I 25E1 BED5 L47G 42SF KDFD SGKI G6JM 1260 DATA Øロ5J XK6E JLD6 RYAS BGDZ GE2B G65L 4AEW 5EGA ESSF S5MA 2DZM 1270 DATA ØDV1 610Ø SFZ3 HSFA FiZDG SSF5 SGUY CFJX NDLD KIBS DREB BE2E 1280 DATA DØ9N F43L 4FED 5E1B ESSM DGGU YSFK DODE P68L Z37R YRSS US3X 1290 DATA Ø28H SFC1 KSLR NGHF LUB® SUL7 ZE2P L4I3 S204 6ESS IVVZ A957 $130 \square$ DATA D15T NJK5 ZIL4 DAL9 1BKD K6ロI L5E6 JAZE RE68 E2RI 45L4 OHKC $131 \rrbracket$ DATA Ø®8J E18E Ø5FH 519K TRGE J69R THAZ 3755 R53Y 89BD Z5HM 5FUB 1320 DATA $\emptyset \emptyset 4 H$ उ10Q G6JB EGSE ØQLQ TLAR E1MD ZGE2 GDZ5 MRUF CSEG 9EØ5 1330 DATA ØØAL FNØH FL9K GEKG X1Z3 URYC RYBS 1ZBB CFFS ED5E 2BLT ZMXW 1340 DATA ØD2W 1 ARZ ARIZD SGAF YA16 RDZ7 EZUE DMFR $5 E 15$ EDBE FSUS UZET $135 \boxtimes$ DATA Ø1E9 A1LK 2WKQ DAGS FiZFS ØG7A DDZ5 DZIH UJYQ GFFG 891A RE46 1360 DATA ØDKЗ 2928 HFDZ 5ЗAK 1NDB 日KIM W9AV LAS1 GSRA bJIZ ERDZ 9ESZ 1370 DATA ØØUA HF90 WMSØ ASHG GZJG UZZP JZKG ØLGO DGJK DZBD Z8ES GL4G $138 \emptyset$ DATA ØØ4N ØLKI RRYR SSB1 J7DZ 5IG5 EGDE B5L4 9G76 DZ7L AØWD CS9F 1390 DATA ØØ1K Z9E3 7LA1 DZ5G 95HL 9E1B SIEG 75GA 6E37 ESET KFS9 IE09 $140 \square$ DATA Øロ9E EดBE VSS9 IZER E37E SEUL GDZ2 BQKロ MD8C KIQ6 JMHM 5E2B 1410 DATA Øロ8J EXSD 2525 NIK5 ZL6X UUDA WHBR YBS4 W910 FJ5E ロCED BSFD 1420 DATA Øロ日E S9ML 42E6 MEGE S9YG HSØM FiB1D A4BV VUEA SØAR ZG78 NIG5 1430 DATA D®D4 GJ66 UXXV Z59Y HXDD WFiYC 54ZU NAUI ASIA RZGS YARY AZST 1440 DATA 0154 JWMD 8483 YULA $51 A F$ ZG65 GEOS I91G FJXQ GYFD D242 QESB 1450 DATA Øロ1H EGTB WDZS ZERD ZBE9 HSGZ VSOE 1 DED EESS GUSN XZE7 ME9B $146 \oslash$ DATA ØDCR DZSV FZEW DEGG TCYB EXVF NISS ZOEH 7RYA SYSD Z7LD ADZ5 1470 DATA ØØ5B SØKI ERYB ZFG3 ZBDZ 5HLD E1HF 65H0 5ZET E77L DCDZ 5ZES 1480 DATA ØØAG EIDE 1EZF BDZ5 G52C FKDU 5YFD DCSN MDZM LFDD Z5I8 5HMD 1490 DATA ØロFF SIMT TAFY AWLC S6BZ FG9E RZE4 SBK4 L690 ORX6 JREØ DE2H 1500 DATA ØØBD F95I NSDZ 5LAX LEGF ES6U XVSR 11 KA 461 F 6JBL 4VIS XDZ5 1510 DATA Øロ9C N1WN W2DZ 5N2X Z7ID Z58T $74 C 7$ UF68 ABDB GQ5S 96FU 6FH5 1520 DATA ØØ46 AFBA 5269 DZ5U B1FD 9DZ5 FWHE SBL9 IE66 L4JE 9JL7 KFSZ 1530 DATA Øロ1I TBTO 5ET6 MJQE 57MK WDZ5 TOEE D6TO ØEDB TO2E L9TO 4E56 1540 DATA Øロ10 ZMN9 4LGN G2BL GKGE FLEO FGZL SKGK JL7P GR5L SMNZ 4LGI 1550 DATA ØØDR GTGL 4KGW BL50 GY7L 5MOB 4L6K H4JL 7Q3I JYLø 7LS4 E80U 1560 DATA ØD1N M4L6 MFU4 L6KI 1BL6 KI2E L6KI 4RL8 KIBR L8KI QBL5 KIYB 1570 DATA ØロBE L5KJ bJL8 MG14 L6ME X4LG FJJWB L6S6 2JWK Ø7MS 4BMH 4DZ6 1580 DATA Ø01U FBSF 9SFA SSBS QCSF DUIE WAFT 8GTG HSJI SJJS KKSK LS9M 1590 DATA 001K 5SUR ØGI6 GJMG K5GL 5GM5 GNSD ZSDZ 5DZ5 DZ5D Z5DZ 5DZ5

## Tuesday

In the next five days you will be typing code listings only．This must be done following the procedure described on Monday．

Save everything on two diskettes，something may go wrong with one of them．．．．

For those interested：The code for today is the start of the actual program， written not in BASIC，but in a specially constructed language which we have christened $A L A D I N$ ．The code defines half of the commands，say from GO to PUT．Of course you cannot use any of the program yet．

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2010 | dATA | Ø0डS | 1 L | FW83 | ED | Z | GII6 | D | XGED | 55 | E | Z5FX | SE05 |
| 2020 | DA | D | S93E | 16 DZ | SFXG | E05S | 93E3 | 6DZ5 | G1FE | 0530 | NGLP | HW | L |
| 20 | DA | $\square \square$ | DC | 4 F |  | BD |  |  | T |  | E | 5 |  |
| 40 | DATA | D05N | QKS8 | ZRVE | B00E | 4FED | SFFiT | WS | 96 L 4 | XHJA | JB6D | ZSDZ | B |
| 2050 | DA | 00 |  | AJ |  |  |  |  |  |  | RYAS | BM | 9 |
| $\square$ | DA | DDFV | FizAb | JQ | SE26 | E361 | NK 71 | 5 | $8 \times 54$ | AASE | WSJE |  | 9 |
| 2070 | dATA | 0050 | HLRC | YEEU | 52DD | FBWS | 4EA6 | DZGE | DGED | SZIQ | WS3E | A6DZ |  |
| 2080 | DA | $\square$ | E | 9 | 6DZ5 | 5 | Y | 5 | D | JE36 | GMBG | $\square$ |  |
| 2090 | dATA | $\triangle 1 Z X$ | SGYX | VQ4F | YEEW | S2AK | UG48 | MASY | I06C | A56B | 54BX | ESWS |  |
| 2 | DA | $\square 18 \mathrm{E}$ | X | US | FF | DHOB | $5 \times$ | J | Br | X54C | R | AGV |  |
| 2110 | dATA | 005L | MLS 5 Y | L698 | FiZBS | 1854 | CRZA | Z3JI | 8HE9 | 7E®B | SASE | 6E2 | E |
| 2120 | DATA | ロ0 |  |  | AD |  |  |  | XT69 | 2WIC | 59BR | 77 |  |
| 2130 | dATA | 019 T | XWFJ | XN6B | GDD1 | 8FiFJ | B561 | XVFS | MVRE | S7JM | EDSS | AWI | AE96 |
| 2140 | DA | ロロU6 | $5 \times$ | 9 | DG | BCKL | 16 | DF | IDUN | BRYA | YF | ZOED | F |
| 2150 | data | 012 M | 5QUR | ES7J | MEDS | ZIYI | Ј700 | JXK | 763M | AWFO | FiYIA | QPE1 | 5 |
| 2160 | dATA | 00 | D283 | MAWF | OR | B4F6 | WX | JWKZ | AYLI | RSCA | EKUI | J5DZ | 6 |
| 21 | dATA | $\square \square$ | J02F | RKフ7L | 5 | －UUS® | IF | DOUW | TउEA | 5 | E16E | DSDZ | 5 |
| 2180 | DATA | DSPL | RSCA | MLDI | J56U | XVUC | SNH | UDVL | GIVJ | KAET | DDUD | 5PE1 | 05 |
|  | DATA | QOBR | L4FI | I 878 | XWF | 7EVX | Z6LE | 57BS | ， | IRZA | FYNS | 5 N |  |
| 2200 | dATA | 04BU | FRQQ | 8DGE | 196 V | XVF＇6 | FDEA | X52A | Z4 | 2F79 | 7 B | YFRE | O |
|  | DA | ロロッ1 | HJLT | 92E7 | SMDT | PPHF | ZD | YCbU | XZ54 | 9870 | HJNJ | BGE7 |  |
| 2220 | dATA | 013 A | JZY5 | YFKKW | X 3 ZF | EIA7 | $4 \times$ | YEZV | XZRW | QB6E | FXWE | $\square$ | B |
| 2230 | DATA | －CD6 | USFG | VXZR | X ${ }^{\text {O9H }}$ | Q39R | CKフU | L682 | 900．3 | 9DBN | 6L3S | U | DLHZ |
| 0 | DA | ®18U | Y1FC | TN | 554A | KWD7 | 7ZRV | JWO2 | C1XA | MS4B | RYAS | DFRZ | 5 |
| 2250 | DATA | Ø0GB | 3ZPD | 1 B | W8MS | TARY | AXEA | RYDS | CBRY | CBKO | DOMF | XEED | GEDS |
| 2260 | DATA | $\triangle 1 \mathrm{KG}$ | JE05 | ZHVP | Q6EX | 6GUQ | Y4VX |  | DCN2 |  | 6WE | 48RZ |  |
| 2270 | DATA | 02 C 2 | QFXD | 6VY1 | Qz | KFFY | YNSZ | F18I | 7UHY | UTIC | RZBR | YZ | QE16 |
| 2280 | dATA | ロロZU | J $\times 1$ K6 | 7HW9 | QBHR | OOQG | 20MU |  | ND3F | OSVB | SXE7 | YFL6 | 1EL5 |
| 0 | dATA |  | 4G3I | AHE4 | 5E95 | 6UXV | SJXK | KADH | ZU1® | FEW6 | EY60 | उSED | 5ZG4 |
| 2300 | data | 01 FF | 6ED5 | SP89 | LXXF | KDMD | Y1RN |  | OOS | PML | $5 \times \mathrm{FB}$ | 0840 | NB |
| 0 | data | $\square 0$ | DY1Fi | NNBT | RODU | 24 | ESII | SYFF | 541 A | HE45 | E95D | Z5E | 6DZF |
| 2320 | dATA | ®1BR | NS6N | R588 | ZRZA | SSCR | ZBZ3 | NGYR | E26E | 050U | 9C18 | 8ZFZ | ADYH |
| 2330 | dATA | ®1E6 | GE76 | DZ5E | 2 J 6 V | XVZB | 41EB | XS2A | 6KXP | Q63B | K0KY | JVHZ | JFFL |
| 2340 | DATA | D2kB | NPQS | HM96 | UJNH | VYZT | FQC 1 | ROOY | 55AC | 1954 | 285E | 35E | 8E36 |
| 2350 | DATA | 0491 | FSOS | 40 PU | 48GQ | DGUX | ZSKA | L5X0． | RGW0 | FFiby | XVRB | N195 | XES |
| 2360 | DATA | OONG | SP8V | LERY | BCWF | VT2C | AQJ6 | NFidg | $7 \times 52$ | ASOD | 52BZ | 3BDH | RVT0 |
| 2370 | DATA | $\square 1 Y E$ | 8GQD | GUXZ | SKAL | 5XFL | QXeF | RGYX | UT5Z | 2959 | Q9YF | M6HL | 9DZD |
| 2380 | DATA | ロ4DU | $4 \mathrm{I} \boxtimes \mathrm{U}$ | FOLD | XOJM | DYMR | NN7K | SUT6 | 5564 | 295C | 285E | 35E2 | 8ED6 |
| 2390 | dATA | $05 k B$ | KRPD | उQBV | KERY | E8AS | 397L | VRBS | DFR6 | YXVX | 7F29 | SA4U | SIM7 |
| 2400 | data | ロ1PX | 1F65 | XMKB | H1QL | WSDS | Q8VL | ERYD | 9ASV | T855 | 8K29 | SE28 | SE35 |
| 2410 | DATA | ®119 | 6E2J | EDSS | D54D | S0G5 | YFIQ | R41F | 1UPC | 83LE | SWBR | YEAC | SVTB |
| 2420 | DATA | 0104 | FC83 | L65Y | BUNB | AOSV | TCXF | SFSS | EVGZ | EF6H | VOK6 | TG68 | 2C8S |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | 0 | BCSS |  |  |  |  |  |  |  | RCYD | $\square$ | AL9G |
|  |  |  |  |  |  |  | $\bullet$ A | U4CU |  |  | DD |  |  |
|  |  | 00 |  |  |  |  |  |  |  |  |  |  |  |
|  | data | D |  |  |  |  |  |  |  |  | 5 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2490 | D | Ø |  | ロउWด | ZU80 | DCNV | TR24 | M | XG1X |  | RZDR |  | 8ACT |
| 2500 | data | 01 | 5 E |  | DW0z |  | VB |  | 51 |  | E |  |  |
| 2510 |  |  |  | LMWM |  |  |  |  |  |  |  |  |  |
| 2520 | D | DGQI | FWDZ | U日QD | C | S6WX | VRAT |  | Q9YF | MHEZ | 60F5 |  | GCL |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2540 | DATA | $\square$ | VTUS | $56 J 4$ | 2N85 | YCRY | BZYJ | OF5L | 655A | KGO6 | EZGU | TUQK |  |
| 2550 | DA | ， |  |  |  | HO |  |  |  |  |  |  |  |
|  | D | Ø3SI | AI4L |  | SKAL |  | BZXA | KRZB | DOIE | 286 V | XUP7 |  |  |
|  | DA | ロص0z | H |  | ADZD |  |  |  |  | PYMW |  |  |  |
|  |  |  |  |  |  |  |  |  | FMKE | W67T | 5CRW | 1 ZUF |  |
|  | dATA | 0502 | Mb | FN | EUED | 5 |  | 4GX3 | 4 | L7BC |  | 2 U 28 | 6 |
|  |  | $\square$ |  |  |  |  |  | Z45W |  |  |  |  |  |
|  | data | ®1G5 | 2L | XL | LTQ® | 5 | ZA |  |  | G | WOCR | ZBZ3 |  |
|  | DA |  | H |  |  |  |  |  |  |  |  |  |  |
|  | DATA | ロロAB | T9 | 55 | BWZ | E36 | ME | K2 | CY | XS2A | S® |  |  |
|  | DA |  |  |  |  |  |  |  |  |  |  |  |  |
|  | DA | $\square \square C L$ | 50 | OTWZ | JES6 | GME | － | 50 | उBKCD | KL | BV | KEKT |  |
|  |  |  |  |  |  |  | UN | 36 |  |  | RNNA |  |  |
|  | D | $\square$ |  |  |  | V20 | UL | G03 | RZAA | 04 F | S1G5 |  |  |
|  | DA | ロம |  | 相 | ， | SA | 162 | 039 | ， |  | E |  |  |
|  |  |  |  |  |  |  |  |  | SJA6 |  |  |  |  |
|  | DA | 01 |  | YFSC | QA1W | EIAE | 05 | NF | 9 | DFHX | WEMS | GFRZ | L |
|  |  |  |  |  |  | Q |  |  |  |  |  |  |  |
|  | dATA | $016 C$ |  |  | OB | － | 1 | 7 F | DZU |  | RXOY |  |  |
|  | DA | Øロ |  |  | 70LK | EKH3 |  | SCA |  |  | E |  |  |
|  | DA | $\square$ | T212 | YAJ | LD | DZ5C | ANS | UW | TSIF | HEDS | 1055 | QSEA | 8 |
|  |  | 04 |  |  |  |  | M91 | 54 |  | 2W |  |  |  |
|  | DATA | $\square$ |  |  | UN |  | YODE | U | ACH7 | 4 | 7TDU |  | N |
|  | DA | ØロLE |  |  |  |  | ZP | 5GD |  |  |  |  |  |
|  |  | － |  |  | ERZ |  | YAS2 | BCSW | 39UF |  | DDWB |  | 7 |
|  | DATA | $\square 8$ |  | JF | XHW |  | 1 RN | M5XC | J 4 F |  | KF |  |  |
|  | DATA | DDEV |  |  | YRIA | FLK | L2M | RY36 | WYXG |  | TE | L | －7 |
|  | dATA |  | 505 | $\omega$ | XS2A |  | R5 |  | MUW | ZG | V | 硡 |  |
|  | DATA | D0Н1 | R2 | YT7A | XL61 |  | SS | 2イロu | － | 5 |  | 2For | R7 |
|  | DATA | D16G |  | WYSE | 22YP |  | 057 | － |  | 硡 | SZB | BB | I2 |
|  | DATA | ロロLD | 2490 | PFIF | $571 \times$ | ， | FISU | 2ZFE | WGEY | － | E．5R | － 1 | 7E06 |
|  | DATA | 02TJ | A®CF |  | QJXK | ZIFW | FQBT | X033 | E0SZ | G47 | XWFG | VW | 22YFi |
|  | DATA | ØडTJ | MSCA | WGAD | C375 | XWFC | NVWX | 22YA | S1kL | KSX | RNQE | TXE | MEOS |
|  | DATA | ®16Z | J | IZ | 8SFB | FYAS | 0SRZ | ADOF | 4 HZ | H63F | S3k | 6FSI | 7E96 |
| 288 | data | 02 V | AYTD | SCBR | YBAY | Y14M | KFBQ | KXG2 | 2 YuS | 5 A18 | GB15 | SA6 | 4GQa |
|  | DATA | ロロB4 | DZ6J | BADZ | FDZ5 | L610 | 35MS | FiW32 | YVE1 | AED5 | SG3I | S7E6 | DZ5 |
|  | data | ØロНK | DMXE | 2AED | 5 SH 8 | IS5E | 26DZ | G1NA | FVTQ | 32YW | E1AE | －55G | S157 |
|  | dATA | ロロEW | SSER | YA7F | YE2A | E05Z | MM4I | JWNS | YF6E | BWRA | S1BR | YHEW | YDZE |
| 2920 | DATA | ロDC6 | E0SS | KSIS | SE26 | DZKG | W2OP | JZL5 | XYUU | 34UM | DZ5 | ZSD | 5 |

# Wednesday 

Some more code．This section contains the rest of the commands．After to－ day，you can rest with the thought that two－thirds of the ALADIN－program and half of all the code is done．

[^0]```
3530 DATA Ø0R7 G7X5 2AS1 DUOB RYWK GAFX GE05 6YN5 C4BS X3DU OBUD DGE4
3540 DATA Ø1GR JWK5 XMDE ØWXF UPDR YIGO 4SEW 6XXV Q98E DI1S 1A6L GIY7
355Ø DATA Ø1VV VE25 ØM95 EBOL 4JPW PKGO GEZG NY1E Ø5C9 7EBG 0FDF UIHL
3560 DATA Ø40S S4JF BO7E B5ZF 6CCU PDRY 7XPG BZN5 F48S ITHE 95F7 5JE7
3570 DATA ØØZU JZL5 XFWV 9XAF RYGR YARY DRZA DUDI Y8GP 82FC SXII UI8L
3580 DATA Ø0KG K6AJ BADZ 7DZ5 E18E Ø5SA GJ48 GP89 KXW2 WHZW JQKG ASCV
3590 DATA Ø0RX DHØR Z4BT XVPJ WRSY 9WXF UPER YCGF 5SEW ESSE 7HIZ AGQ9
3600 DATA Ø2VZ AZ4U IOL2 NOWM BNJ6 BMGZ 5SBV E352 2B9F BOL4 JPWP KGOG
361\emptyset DATA Ø1FA 5SAZ EVGD Z3BR JXLD 2NSS AHB2 G20M TJWL 4BS4 JFWT 8GQ9
3620 DATA Ø1EP 56W7 DB61 FYPG K6A3 9OUM DY1R NNGA 5JBA DZ7D Z5E1 BE05
3630 DATA Ø4C6 GU1A H84J BLDZ 5DZ5 FZDK QR10 48S4 JPIZ 3B2W HZHR UIDL
3640 DATA ØDZR 7XKO 2VHB 651K 7K84 FRNQ K6AJ BADZ BDZ5 DZ8E Ø5SC GXEb
3650 DATA 0231 SEG5 6X5D ASYF LVYW YCUO BZSP IK5S BVSA VGYO 2K48 S4JF
3660 DATA ØØK7 4GF2 ZI7X BD8S 9BRY DJ46 X93E AGDZ 6FX9 EDSE G7HM MDZ7
3670 DATA Ø2FQ NBUB VG48 S4JP I73B 2B2I 2Q6R YBFZ AFX9 E05T 5ZHM 9DZ7
3680 DATA Ø1KK 7GF6 S9J6 HOWN 8NG6 BNK6 A1NK 7L5X JO2T Q9NX ESEA GDZ7
3690 DATA Ø\emptysetEX ASDC AQSF RFSD IØZ4 EWZA RYAS 5BES 6SEW E45Z GPJØ AGQA
370Ø DATA ØØKZ RYIF G6L6 1ES5 XMJJ ØAG@ ADZG 2SOX MBNK 685H R6SB VE45
3710 DATA ØЗC5 7IIG SBVE 4510 BHGB OL4J FWFK GO67 U5CE 6TGR NRH8 BUCW
3720 DATA Ø1AX YDF5 OVY5 FTWC RZAØ 7PWR KGOG EZ79 OYFR 5MWF G153 ADFL
373\emptyset DATA ØNNY 5FAS I1FM NFSX CH89 FZØK QR1E 48S4 JPBB 7DE6 2FKE U4JF
3740 DATA ØIVS PFYD KQFi1 448S ITHE 456X XVFJ WN5Y F6BL XSDU OBUO FIDG
3750 DATA Ø24F FCD1 Q54B SITH E456 XXVF JYNS YF69 LXSD UOBU OFKG ALG1
3760 DATA Ø12B KPK4 904F FIE3 B2WH ZWUQ KGAJ BADZ 7DZ5 E18E DSSA GJ47
3770 DATA ØЗOM 6SRA FSUJ Ø7ØL KFKB EHWF QFZA N21E SSCB SEAR DSYX S4JF
3780 DATA ØØNG WVQK GAN2 1ES5 I98G P69K YD2W HZWW QK6A SCVS FVZF AJ17
3790 DATA Ø14A KSL5 XFSM CA3R SEWE 55L5 SJ1A GQBD Z710 OYM8 NLDD 1GØ7
3800 DATA ØD65 58RH D2NH 8FU母 UE05 EESB 2WHZ HRUI ZHEA 512J WK48 SITH
3810 DATA Ø1HL ADZ8 GUXV RJZL 5XGU SCH8 HJBG L4ID Z5FZ ØKQY bI48 SITH
3820 DATA ØØKD SSAS 1ARY CS1B RYBF ZASC VEØD LVC4 KO2P Q9NJ 4BGF DGF'6
3日30 DATA Ø2KG FJ17 71XW PSM1 IFUX BFUP IRYC IA71 SMNS 5XGD I 156 AL16
3840 DATA Ø0B4 BW5G B65F YTGX ØFUP IFYC KG7J BADZ 7DZ5 E18E Ø5L5 DJ27
3850 DATA ØSED ØS6A UX1J 272F K4KB TWWR QFKB 39AS VY5F ASIU BWET 5L1B
3860 DATA Ø1RK 1135 MZTG DH8J JBLD ZSDZ 5JBA DZBG UXVR JZL5 XGSW DAJJ
3870 DATA Ø5MJ M6TQ RNUE B8L8 1EAS 396L IBCL 4JPC 97B9 DSF6 JBSU LDOI
3880 DATA ØSYI QKGA FXDL 51ZF FJFS B2WH ZBFC UPIR Y655 C4KD 2VA3 WJBG
3890 DATA Ø1KY 52MJ WK48 SITH E456 ZXVF JXN5 YFGA LITH E4SF DSS9 3EKG
390Ø DATA ØD7J E26F X7E0 8L55 EX7Z EFAS OOWG 7HDE ØSGD S1BR YAHO BFY7
3910 DATA ØDFR RZAR ZBSØ BZ30 HE8F Z7EØ 588X YRR2 5RD4 WQQF ZAM2 1E15
S920 DATA DDGE X7BI FHEG 7ED5 JCB6 XXWF CRWI G4SU CDOF DZSD ZSDZ SDZ5
```


## Thursday

The code section for today contains the last of the ALADIN－listing．This part deals largely with the movements of the other inhabitants of the castle． It is therefore a very important part：it brings action to the scene．Generally， the more＂intelligent＂the other players are，the more interesting the adven－ ture．If intelligence can be measured by program size，you＇ll have to agree this adventure is interesting！Also，there are some finishing touches，such as the death routine－up to now you couldn＇t die！Unfortunately（for you）， you can＇t just leave out that piece．

[^1]|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | data | $\square$ | 92E7 | 5 | DTLM | $76 E 2$ | 5 | CH1F | YCK6 | 574M | POTS |  | JETL |
| 4480 | D | 05 | B4CM | TYGT |  | E | 55 | 0 | BZ |  | YCCD |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4500 | DA | $\square$ | BS4B | ODS6 | YXVP | 700E | E | A | 4YUL | UWS | 4 | LER |  |
| 4510 | DA | $\square 1$ | 6HL9 | 6UCH | GWLZ | SYQH | KE | H | E750 | 58 | 2N |  |  |
| 4520 | DA | 05 |  |  |  |  |  |  |  |  |  |  |  |
| 45 | dATA | －02T | RY | ARYA | Z64R | ZAE2 | ZX | E26D | Z6FX | SED | S | NGES |  |
|  | DA | 00F6 | S1 | FHX | 2EV | D25 | NS1 | $5 \times \mathrm{DJ}$ | QEOG | SLSS | SC | 26DZ |  |
| 4550 | DA | Øロ | $5 Y$ | WYI | HE25 | DZ51 |  | XWP | B3IM | UHPH | E | Z5S |  |
| 45 | DA | ロ® | 5XP | 2CHE | ZJBD | DZ5D | Z5E | Z | 055 V | PO2A | X | YARY | 7 |
|  |  | ロロ4U |  |  |  |  |  | GRFF |  |  |  |  |  |
| $\square$ | DA | 0214 | PV | BK7U | N68 |  | YBE | 5SA4 | 72 | FJXL | D | DJEE |  |
|  |  | 01DI | XWF | 2k6 | HDDU | GYF7 |  | 5MSU |  |  | 210S |  |  |
| 0 | DATA | ロロA3 | FYBE | SSE | E16 | UXW |  | D2TT | DKXA | DR | RYAZ |  |  |
| 46 | dATA | 0099 | 4ZLU | NDS7 | DEU2 | FFGN | 8GS8 | FX7E | 0554 | 3ES6 | E26G | 2YED |  |
|  | dATA | D087 | ロLR3 | IS | KS | UCUO | DTXC | RZAR | ZBSD | BZ30 | HPFJ | BEDZ |  |
| 48.30 | data | 2J6L | － | － | J12B | ADFM | CLDI | 4MBA | －buc | LDAZ | LBAN | － |  |
| 4640 | dATA | 290L |  |  | JELS |  |  | 903E |  | B7 | L652 | X70Y |  |
| 4650 |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Friday

Does the code for today look very different? It probably doesn't; but actually, it is quite different from what you have been typing the last four days.

The procedure for typing it in, however, remains the same. This was described Monday. Today's code contains half of the text of the adventure. Since this is a text-only adventure, your work for today is of the first importance.

```
990 REM IBM - FRIDAY
100| DATA 1000,36,36,1,95,40000,43676
1010 DATA IVUC AØAB EQ7J FXØ9 87TS YEY4 ZMQX 2UCA I02C LNSX EX7U C4FD
102\emptyset DATA 215R X1SW 4BØ7 N7TG ØEX7 1BLN ØOWX 1ST4 BD2J LNDO VX1U CBCD
103\emptyset DATA 1ZTR X1UC BAØ2 CFND U144 UC5G Ø7M7 NØLQ X3SR 4BØ2 HNND MXX1
1040 DATA 2EN1 24UC SFØ7 M7FE 1114 1BNN ØUQX 2SR4 B\emptysetSR 4CD7 LTNS XEXØ
1050 DATA 1TW4 AØ2G MNØN TX1U C6FØ 2FLN DW1Ø 1UC8 H070 70DT 116Z MUX7
1Ø6\emptyset DATA 20EX X2SO 4BØ2 DMNØ ORX3 ZMWX 41BK NDOR XB1E KNØU FX2S 54B\emptyset
1Ø7Ø DATA 1BH7 MDY1 ØGZM SX61 BFND T158 UC7B ØSQ4 AØSP 4A\emptysetZ JFND DYX1
1ØB\emptyset DATA 1BK7 NØLY XØSU 4B|2 DQNØ QTXS UC6D ØZES NDW1 14ZM SX1U C5AD
1090 DATA 452B SNDT 153U C6F0 7M7N ØLRX 37N7 07JE W8UC 8907 M7T5 WEX3
11ØØ DATA 1TR4 BØ2J FNNDP QX1U CGED 2FJN 5ZEY 8ZMT XZUC 9HØZ BLNS XEY3
1110 DATA 26JE Y11B KNØM UXDS E4AØ 2BPN ØMLIX ØUCG FD2C RN5X EXBU C4GD
1120 DATA ØNYA ØVC3 CØ2E NN5X EXDU C490 7L70 DW11 8ZMU X5SP 4FØS G4DZ
1130 DATA 2E81 151B NNØR ZXØS R4E| SW4G ØTL7 VDZ1 Ø41B LNØR XXØS P4B0
1140 DATA 1WFA G02C JN5X EYG1 EKND V141 UC5D Ø7M7 USZE Y4ZM SX5S @4G0
1150 DATA 134L NØST X3SW 4BØ2 CMNØ NRXØ UC5B Ø2CJ NDT1 17ZM UX1U CBFØ
1160 DATA ØTNY 81BL NØFU XØSO 4BØV C3DØ 2EFN DU13 5UC4 IDSQ 4GZU C4CD
1170 DATA 1ØYL NØUV X25V 4BØS X4HØ SF4F Z1BO N5XE Z1UC 7HØ7 O7US VEY1
1180 DATA ØRPX }1987\mathrm{ MG2E Z8ZM SX4Z MUXØ UCBI Ø2DL NDU1 16ZM TX1Z MSX1
1190 DATA 1TD4 AØ2B ONØM TXØU C590 2BRN 5WEX 6UC4 EØ7L 7FEØ 113Z MLIXG
1200 DATA 20BY X1SP 4B02 IMNØ MVX1 UCBH Ø2DK NDU1 Ø5UC 9907 OTPD 5158
1210 DATA DTND T1JU 3YJØ 5VDN GYSL ST64 30J4 ADED 1GX5 SFNH 2FYK 3YFD
1220 DATA 50DU ULHF YLQT 9430 IZF7 EM1F RYT2 U|CD UE43 90|J 5NE4 39\emptyset\emptyset
123Ø DATA 4DIW DHEJ 1ZG5 MJNJ JØWG 5GAN HBLD YYZ1 UØYZ ZU®I TNDH ØUWU
1240 DATA ATXD ZULG YVUK HSS3 4ABX RIZA GFGH KKSE SNDM 1LOI RHMF GIDI
1250 DATA GNEJ 10K5 JJN4 CUDØ IPXS H8PQ KH5S MHDV QMHS DH43 DXNW GVUØ
1260 DATA CCRI LRGS TOXI IZRG FGOL JIOE GISS DXIO RHSQ BXII PLES FOXV
1270 DATA CUUJ 2T5H GSDO DTU5 HGYW G5MD NJL1 SHIZ AKEC 1FGI RISS PIXV
1280 DATA 4QIL SL4B 7EDI MRHS ZBS\emptyset J7IG 3SLC ØSI4 30SI 4307 E7GF GIRJJ
1290 DATA EY4H 5D73 PAXN IZM7 DP1E KAZY JISD FX5G 7NHE JUGD QUIG WWHX
13ØØ DATA ENNK 1ØUD DQUI H4LF KSYH ØIMB B47E XIIZ MISP F&ØJ 3HH1 ONXI
1310 DATA 54YF ZUDI XA93 X9XX IFS7 KD2R ODSU EH4N KZCR UIHA ZWIY F1TD
1320 DATA BSYJ 4AGE C1NT ITF7 FGZH XITE LFGY XTSK INGY HQTS SDNG XHOR
133Ø DATA 72FG ZWG5 J5NH DLYK VSVG ØJ7E SHBV QYH5 AKHE UXXH 5SNS XQXH
1340 DATA CGUB 2XJF GYLT DHUP STI1 DJ20 IED1 EUIZ KLFG ZHIJ 2EME R1GO
1350 DATA 5FHE JOUW ADS| J7H7 3TIX ZIFL 7HEJ FVVDF USHS HUSC RUBH 7HVQ
1360 DATA BAØI MLNE D1IR WCST ØSMD 1ITS BGXP DODU BJFG ZWOS PBNH 2YHK
1370 DATA BXTH 5R7E C1OG IOD7 EQ1J RYT6 GØIM UGSR EXQD 81YH 5WSE C1PU
1380 DATA CKT5 IONK 10DI DLU4 GWSO YHSF H4JA XYJS PI4Ø UXMJ 5NIJ XJGK
1390 DATA 14RH NH6P ORSL 430S I430 SI43 0SI4 30IL H73P AXZG CDR4 SR7J
140\emptyset DATA CKXI TGAE S1EK ISIG M971 UDVU MMK7 1UDV 46H7 LIZH 5S7G YYHZ
1410 DATA BRDJ STSH 4YFG 5W4N JM1Q MIFO GFGJ HRIW AKIZ OF1I LUEE SIVU
1420 DATA 70H7 KLKY W2\emptyset\emptyset COUE JR2L T2XG NFBY RUDN UK43 L20I NOKH DFGU
1430 DATA CGXH 5GK3 T790 ISAE EK1D TB7R JFGZ KU5V JNJN 4KOI MIMS XL3W
1440 DATA 5QFG THJ5 M415 EBNG XLGX IZOF FGLQ ZYWB 60XS RSNI LLEF GZHX
1450 DATA IVOG WUWY CLUD JROF NSID NGYV XXON 1GSV 3NH2 HWKJ 7ARI 33RX
1460 DATA COQJ 3HHE D1DX IXON 46VX RIZN 9FGJ KGJD EEIS 2HYJ 4RRF GNDR
```

1470 DATA AYRS IH4H 5GN3 TP9W 1EDN H7HQ JWDX WØIR AFGX SLT2 XGNJ P1DX 1480 DATA IN6D F1WU 5VJø B5RJ FGSR U31G NFBV XZHS FKJR $2 D Z 2$ VGNJ U1FH 1490 DATA CKK3 BGNG XPUJ 39AN H9LV ZBVP MJX3 HXHS B7HI PWII SEGF GSDH 1500 DATA $74 H A$ YDZI ZRRF GZWU W9O6 ØJ3T N3SV XYIX AEEK 1DOD SU6H DHZH 1510 DATA BPXI TD9E D1LT H5TA ED1Z G5PB NH7H UJDF 4JA6 WGU5 SHNH IHUJ 1520 DATA CJXW GLUW HSCN HBIR GW9N 6062 ED3Y 20J3 THGZ FDTH $56 B 4$ 6IXM 1530 DATA AXGJ 4EDH ØLSK DSUI HDPH YDUU 7GWN DKH5 WBHL HUJH 5R3E S1JO 154® DATA SYCS SNYU CYVØ IPA9 9AYN YH5C 3HDJ DYDT UPJR 6DXG 1KLF GURX 1550 DATA JRME G1HG SWJN HEVX ZØBK 2IPS MAGW VVIP LEFG OHG® JKIG YHVK 1560 DATA EYNG YVOR IFCM 3XL3 ØDED ZITN 9HGP VN5I 3NFB YRVD FU44 3Lø0 1570 DATA BØUØ HKDJ 3EG2 9040 G2ED DSU4 HDOL TTB4 QDQI AANC UUD2 9FXJ 1580 DATA 4RDF ØDES 1XTI OEKK 10DT LBH5 KH5I M29F 80J4 OHFG KDXL IH5X 1590 DATA 33H5 AKED 1WOW 90Tర IXOO ED1Z NIPR 729A 40J7 AG6V EKDP 2ZJ0 1600 DATA $2 J 03$ KGDU UMH3 LUKH 5NHF GVQK RPRB ØUZ4 B01Y NNø9 WXNY J1uø 1610 DATA V7K7 3Y10 50FN H4UW U6LU TFGW DYロN K＠DQ ULHF HLXD TU64 3T30 1620 DATA C7GJ 2ON4 2AXN ILV7 FGIH KDOU 4H®M RXB5 7AE1 1VKD FUGJ XøKO 1630 DATA CSTD HULH ELFO SEEN DM10 GJ4C A3TA XG5R 3NGX VOZ5 IJNJ XDKK 1640 DATA $70 E Q 1 V 05$ H4NG YSRY SISN 3 OR9 ØIYO MFGS RIIV EGFG UDOW $30 T \emptyset$ 1650 DATA 7GHE OXZH 5THH 2LWN QMEA TH5W B48E XVIT E53T PXLI ZRFE R1SR 1660 DATA ЗMUS MU®U Z4ED J7I6 GGEK ØDØU 63TB 5016 FNH2 VHYH 5L7G WKLT 1670 DATA GGGI EK4Z MKXH IPYH 42AX IDED DES1 EKIW LLFG ZWGS VJNG YOLS 1680 DATA KFB4 2DXY SLE2 INAL ED1E XIFA DER1 EGIO LRFG OXXD UU4E XIVV 1690 DATA CARI TNM3 TO8Ø JØRH HFLF ZDTU 846L 2015 IGGZ LUYH 5F34 ØIXU 1700 DATA L®BE E1ZG DZUP CD7N Z3Y4 15ID NHIP GKDS USES 1RT5 G4NK 10DX 1710 DATA CMZD TULG YYHG IXIG EF1D RJ2E 33SV XNSE INH3 VOJI TN9F GOHG 1720 DATA FN1D ZU84 3OXZ SVON H7LW YHSW BH7S LTIR LRFG KRKD TUE3 TQXS 1730 DATA KI3H 9HJK HEGK 3PEX GIYY MH3P QM6L UPFG KUO5 RANH BHVY 3YED 1740 DATA CFZH SWAS TKXI WGWU ØG2E ØJ2S 740C XGIR ABEM 1IKS IBNK 1ロUK 1750 DATA CETI RTAF GMOU J7IG EF1W NJ20 N3VE XYIZ M7HF OLTD HU83 XQXU 1760 DATA 65 H 1 MHXF $2 Z 00$ JDOF STOX IILS MFGH EUSZ 4 NH 3 LDJH 5AIH BLDX 1770 DATA GZER 1JRW bLU® IWI9 उWQX UJØE GER1 JUDU U4H』 JRSD FUBJ WZLY 1780 DATA AQOI ML7I 31VK IWEL ER10 UILD 7EC1 IOSV 4NH7 VXJH 5B34 2DXK 179® DATA JFGH ESRJ SIIN 3WF9 ØIPF 日ST9 90J3 TKH4 RHY3 Y41I PRRH FOLT 1800 DATA CUMH 5LH4 3H80 J6EK EX10 GJ2G 7FGO HGDS UGHA FUKH 5R73 PAXL 1810 DATA D1GI NIGS IEKD CUUI 4911 ØJ7I 63TK XOSX INGY VQZI PNME R1OU 1820 DATA J4LE S1ZG J2DL FGIO UDXU LGYY DZ5G 7NH7 FJNS XB4H 5N34 7QE® 1830 DATA II54 90XY J4A4 FGZO $05 G 4$ NGZL HVSP ONGZ LODJ 6EKF GKHG 5HB4 1840 DATA $2 E 31$ JGRØ 4ATS 1430 ILR7 H9KD XJ6O GFGJ DYWB VUøI OI7F GYHZ 1850 DATA DEØ5 UDNH IVUR B47A ØMUX ZIZT 34DI EØIP XAJJ IVZ5 IJNH IHYK 1860 DATA BOXD TULH GKGK SRB4 H5VB HEPE RDFU 5H7V UKTN 43®I NR34 7EXI 1870 DATA AVKI TLB4 2DXI IZLE GWWV KDTU 8H7V RXHS L342 AXHI FLHE V1WK 1880 DATA 7FHD YLH5 F4NH 3LLM 5LJN HFOL YHSH H40U XYJØ EE4D PXRY TZUØ 1890 DATA GCGI उØKK 5MHN GWUJ XDZU 日HDP HTSH B4H5 R747 QBDI LCSH DWWY 1900 DATA 8005 W048 J7DE H1DI INEI ES15 XIPS $742080 U 7$ 100J 4ADS TPXI 1910 DATA KSHH GUWY 1BA4 5SKN HFYH YJ®A LHEF QMHS CJEM IVSI PLEF GHDZ 1920 DATA JRAJ X1JN HSEG HFLU YHSH 7133 LRDF K2IL TSEG 1UKI RUEJ JøLU 1930 DATA GETD TUEH AJNY HSSA GGEN ZISA GJTO 1U3B ANHE TLRS IINH EJUK 1940 DATA $43 I L$ MLCT RFGD DUA3 TI5® U7I® ØJØO LHFJ DXQL FAQS HENJ N4SK $195 \rrbracket$ DATA AUID UU44 9VXS DFU3 K20D I50I NHSP WYH5 KGHA JNYH 5CH4 ØAXV 1960 DATA $6 R 49$ QBDI SILI 30HX J2IM $430 E$ ØJ4U K42F XYW6 XØDJ $3 P 73$ PH8® 1970 DATA EQSI LLTG ZFFZ ITOG FGSR YITN 9FGI HTIF DEJL ØLUD OUIH GSOY 1980 DATA 850J $2 E 33$ SPXY J4A4 ER1E K5EA NGYH UXIT ELFG NHTJ 4LRF GYHM 1990 DATA CTGJ 2DL2 9780 ITNM KD1G KDSU GHDV SYHS MRAG WVVI PLED J1FG 2000 DATA $6 T 47$ Q805 KB1Q MFAQ WERU ØJ70 KJZP XKJB AFH4 UHYH 5EQH BLUO 2010 DATA JOFS TK90 IFAM ER1E 05X4 NH1S HKDT U83T $7705 \mathrm{KB15}$ IDNH BYHY 2020 DATA JSLF GCUK J4UK 424X VIWA RFGZ XVJø L7HB LQzs EH4H 5AOG WPOg 2030 DATA Ø3LI ML7I 3B7A HQB7 AHQB 7AHQ B7AH QB7A HQB7 AHQB 7AHQ B7AN

# Saturday 

The last of the code！This section contains the rest of the text code．Yester－ day，you typed in the words used in the sentences；today，the code contains the sequence of the words that constitute each sentence．

[^2]|  |  |  |  |  |  |  | AZJ7 |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 15 | DA | $1 \times \mathrm{M} 2$ | FESW | BE74 | 1 HBL | 52 | 5XFL | HRZ2 | 5534 | W58H | AL9C | 名1MT | $\square$ |
| 1550 | DATA | 19 L 7 | T1EB | L52R | ESNP | LHRZ | 253R | 9 C 20 | WXHW | 97JC | 0004 | C56X | HW97 |
| 1560 | DATA | 2ULU | I 6 | AD | B4 | YBCR | GI | M | GAJ8 | S0xP | $v$ |  | 5 |
| 1570 | dATA | 2879 | IMR6 | A50U | KBEA | P7DJ | I3CJ | F220． | GAXF | V7CF | YBZ3 | 8BE8 | LICB |
| 1580 | DA | $\triangle I H Z$ | CGDD | HDWS | JKFM | M429 | F1W9 | W06x | 9WLX | Q8PK | 2R2M | SL52 | RSEB |
| 0 | dATA | 1 M | DYNW | 4FAN | 057X | XTBロ | 1853 | 4 W | YBX9 | CNGI | RQMI | C | B |
| 1600 | DATA | ロYMR | QMIC | 577W | ACRS | IFOM | IDSL | W6YU | BZC9 | INO6 | CTAN | 057W | Z |
| 1610 | dATA | 0 MQS | QXHI | 26CQ | IV52 | BL | 48BR | SYPP | KR6I | 6LFC | W5MI | 1CP5 |  |
| 1620 | DATA | 1F7C | K2XB | L535 | T3J5 | R 40 H | XNNI | FQU4 | TSUJ | APOK | O6CI | 4VR2 | K |
| 1630 | DATA | 0463 | 3RRE | 5POL | LSTU | BLZD | JSTT | LSTZ | ML2G | VPOX | ODQP | F | 5 |
| 1640 | DATA | 0549 | ML7V | 7302 | DPCI | 52R2 | XMCK | LUCI | SFRV | D3V8 | L5F I | S3RD | TMSK |
| 1650 | DATA | $\square 4 \mathrm{NJ}$ | 5JRS | 3MDK | OXCI | SMRV | K3VF | ODCI | 5QR3 | AMBK | F4TX | MLRU | Y 3 VL |
| 1660 | DATA | 04 KN | 5VR3 | FMEK | F9TX | ML | IXAR | PCCI | 5AR3 | KM | LYCI | 62 R 3 | MMBK |
| 1670 | DATA | DURH | PGQP | QXOR | Q3TX | ZCNH | KZVJ | NKZ | $9 \mathrm{ES8}$ | BRQM | K3ZC | JNKZ | ZXAB |
| 1680 | DATA | 02B3 | JNKP | PV88 | EUSV | XABZ | C．JVK | FQH 1 | GDL | $7 \times A G$ | M2CI | 6FFW | 8 |
| 1690 | dATA | D35B | I292 | CNTK | PWCI | 6LR4 | SXAF | PSCI | KUVR | QJ6F | PLH7 | GøWW | G |
| 1700 | dATA | D04G | Z6QR | 4AK7 | KZDJ | 392C | ITKZ | 4J3 | ZCIX | KZ7J | SGZC | JLKZ | AJ3J |
| 1710 | dATA | －02A | XJ3L | zCJ5 | KZFJ | 30ZC | JBKZ | IJSR | ZCJB | KZL | Z | JE | OJЗY |
| 1720 | dATA | 0254 | J3ZZ | CJJK | Q4CI | 6TRW | RI2M | ZCYF | OLSD | 06WR | ロK4W | 21M0 | MXAV |
| 1730 | data | ロD3I | MDM4 | W24M | 0M4W | 5WM0 | PXAY | LSDX | GYRF | 1GC1 | L5E1 | 6WRD | WKOK |
| 1740 | DATA | ロ4DD | SFRF | 6GC8 | ZCKS | KMVC | I SKR | 1497 | 05x4 | 7KWK | NOHD | 3NR4 | JKBK |
| 1750 | dATA | DGCE | HL5D | P71R | 18A1 | 0Sx4 | 7LSK | QEHS | SARI | SGCL | LSEK | 6WRF | MBHO |
| 1760 | DATA | $\square 4 \mathrm{CV}$ | U7WI | MBHO | LSEF | 41R1 | LO6K | NFCI | WIZR | QKOF | NHSX | ML5F | WBHY |
| 1770 | DATA | 04F9 | GWRF | YUJ® | L5T6 | D99D | JDTS | L5T8 | D9BD | J596 | LSVT | D9ER | QKQN |
| 1780 | DATA | DSHR | EZ20 | IOSK | M1DW | G®N® | R08K | QGE1 | GWRX | 1JUN | LSDE | SQRX | 1 K 4 N |
| 1790 | DATA | ๑ロUL | 5DE3 | WF08 | LTK0 | GEN6 | WRD8 | 72EZ | 21L9 | ZEZ2 | 1892 | EZ22 | DO6K |
| 1800 | DATA | ロ270 | JFKE | HHVZ | 7R40 | NFKO | HHV2 | $9 \mathrm{R} \times 5$ | W90Z | CNJK | MAHB | G®N1 | 3 J 37 |

## Sunday

The seventh day is traditionally a day for resting; however, we do not follow this tradition. On the contrary, some hard work yet awaits you.

First, there is a fairly large BASIC-program. This is the keystone of the adventure. Take care that you do not make mistakes! There is no errordetection!

After that, all that remains is to put the pieces together. This is a very rewarding job: the reward is the game on which you have spent so many hours.

To put everything together, execute the following steps carefully:

1. Save the BASIC-program for today on a new cassette.
2. Load and run successively the programs for Monday to Thursday. If all is well, there are five programs, each consisting of the decoder program (listed Monday) followed by a number of code lines. Since all error correction has already been done, running the program should be no problem.
3. When you have run these five programs, type the following command:

$$
\text { ESAVE "ALADATA." }, 4 \square \square \square \square, 1 \square 40 \square
$$

4. Load and run successively the two programs of Friday and Saturday.
5. Type in the following short BASIC program. Take care that you correct any mistakes before running it!
```
10 OPEN"datafile." FOR DUTPUT AS #1
20 FOR I=400صص! TO 47834!
30 A=PEEK (I):IF A<>D THEN PRINT#1,CHR車(A);
40 NEXT
50 CLOSE#1
60 END
```

6. Run the program. This program will again save a piece of code.

The three programs just saved constitute the final program．Perhaps it would be wise to repeat the process to make a backup．

To start playing，load today＇s BASIC program，and RUN！You＇ll have to wait some time while the other two sections are loaded；but then：

## PLAY THE GAME！！！

```
10 REM ** ARENDARVON CASTLE **
20 CLEAR ,30000
30 GOSUB 4000 : REM INITIALIZE
40 CALL ALADIN : REM ALADIN INTERPRETER
50 BAS=PEEK (SA +30)
60 ON BAS GOSUB 1000,3100,3000,2000,3200,3300,3400,3500
70 IF BAS >= 10 THEN GOSUB 3100
80 POKE 815,F1:POKE 816,F2
```



```
100 END
100\square REM ** PARSER **
1010 INPUT "",C事
1020 IF C&="" THEN RETURN
1030 GOSUB 1150 : REM NEXT WORD
1040 GOSUB 1230 : REM FIND WORD
1050 IF ID =0 THEN 1020
1060 ON CMD%(ID,3) GOTO 1070,10日0,1100,1130
1070 POKE SA + 14,CMD%(ID,2): GOTO 1020
1080 IF PEEK (SA+1)=\emptyset THEN POKE SA+1,CMD%(ID,2):GOTO 1020
1090 IF PEEK (SA+2)=\emptyset THEN FOKE SA+2,CMD%(ID,2):GOTO 102Ø
1100 D=PEEK (SA+9)+CMD% (ID,2)
1110 POKE SA.+11,(D-4*INT(D/5))
1120 GOTO 1020
1130 POKE SA+4,CMD%(ID,2)
1140 GOTO 1020
1150 REM * NEXT WORD *
1160 WD&=""
1170 CH:=LEFT事(C⿻一未丷刂心,1)
1180 C = =MID: (C = , 2)
1190 IF CH $=" " AND WD $="" THEN 1170
1200 IF CH $=" " OR CH$="" THEN RETURN
1210 WD ==WD $+CH:
1220 GOTO 1170
1230 REM * FIND WDRD *
1240 ID=Ø:L=LEN(WD = )
1250 IF L>5 THEN L=5:WD = =LEFT*(WD*,L)
1260 FOR I=1 TO NC
1270 IF LEFT事(TXT事(CMD%(I,1)),L)=WD* THEN ID = I:I=NC
1 2 8 0 ~ N E X T ~
1290 RETURN
2000 REM ** DISPLAY TEXT **
2010 TXT=PEEK (MEM) *256+PEEK (MEM+1) +NW
2020 RW=80
2030 T:=TXT事(TXT)
2040 IF LEN(T事)=\emptyset THEN RETURN
2050 CH%=LEFT$(T*,2)
2060 WI=(ASC (CH$)-5)*127+ASC(RIGHT&(CH末,1))
2070 T = =MID*(T = 人,3)
2080 WD*=TXT*(WI)
2090 IF ASC (WD*) =36 THEN 2190
2100 PS=FOS(1) : REM CURSOR FOSITION
2110 PS=PS+LEN(WD*)+1
2120 IF PS>RW THEN GOSUB 2150
2130 PRINT WD:;" ";
```

```
2140 GOTO 2040
2150 IF ASC (WD $) =29 AND LEN(WD w) =2 THEN RETURN
2160 PRINT
2170 IF ASC (WD*) =29 THEN PRINT " ";
2180 RETURN
2190 JF=VAL (MID* (WD* ,2))
2200 IF JP=\emptyset THEN FRINT : GOTO 2040
2210 IF JF>13 THEN WD*=STR条(PEEK(SA+31+JP)):GOTO 21ص\emptyset
2220 T本=TXT央(PEEK(SA+31+JP)+NW+NT) +T$
2230 GOTO 2040
30Ø0 REM ** RETURN **
3010 SF=SP-1
3Ø2| AF=STK (SF)
3030 GOSUB 4390
3040 RETURN
3100 REM **ALADIN SUBROUTINE **
3110 STK (SF)=PEEK (ALADIN-9) +FEEK (ALADIN-8)*256
3120 SP=5P+1
3130 AP=FNP(7)
3140 AP=AP+60|D
3150 GOSUB 4390
3160 RETURN
3200 REM ** RANDOM GENERATOR **
3210 X=PEEK (SA+28)
3220 X=INT (RND (1)*X) +1
3230 POKE SA+3,X
3240 RETURN
3300 REM *save*
3310 INFUT"Filename (Press <RETURN> to cancel): ",F=:IF F事="" THEN RE
TURN
3320 PRINT"saving":BSAVE F$,40|||!,1700
3330 RETURN
3400 REM *l oad*
3410 INFUT"Filename (Press <RETURN> to cancel): ",F=:IF F变="" THEN RE
TURN
3420 FRINT"lqading":BLOAD F$,4|DDD!
3430 RETURN
3500 REM ** START AGAIN **
3510 INPUT "",C&
3520 SF=|
3530 GOTO 4250
3540 END
400Ø REM ** INITIALIZE **
4010 ADR=40002!
4020 MEM=40000!
4030 R事=CHR事(13)
4040 DIM STK(10) : REM * STACK *
4050 CLS
4060 PRINT"Loading...""
4070 DPEN "datafile." FOR INPUT AS #1
4080 GOSUB 4360:NC=VAL(WD$)
4090 GOSUB 4360:NW=VAL (WD$)
4100 GOSUB 4360:NT=VAL (WD*)
4110 GOSUB 4360:ND=VAL (WD$)
4120 DIM CMD%(NC,3)
4130 FOR I=1 TO NC
4140 GOSUB 4360:CMD% (I,1) = VAL (WD**)
4150 GOSUB 4360:CMD% (I,2)= VAL (WD$)
4160 GOSUB 4360:CMD% (I,3)= VAL (WD*)
4170 NEXT
4180 NR=NW+NT+ND
4 1 9 0 ~ D I M ~ T X T ~ \& ~ ( N F ) ,
4200 FOR I=1 TO NR
4210 GOSUB 4360:IF ASC(WD*)=8 AND I<=NW THEN WD本=CHR事(29)+MID* (WD* (2)
```

```
4220 TXT夆(I)=WD*
4230 NEXT
4240 CLOSE#1
4 2 5 0 ~ E L O A D ~ " A L A D A T A . " , 4 0 Ø 0 D ! ~
4260 PRINT "Initializing..."
4270 DEF FNP (X)=FEEK (ADR+1+(X-1)*2)*256+PEEK (ADR+(X-1)*2)
4280 SA =FNP(1)
4290 AF =FNF (7)
43D| ALADIN=FNF (8)
4310 GOSUB 4390
4320 PRINT FRE (WD$)
4330 F1=PEEK (815):F2=PEEK (816)
4340 CLS
4350 RETURN
436| REM *read word*
4370 LINE INPUT#1,WD*
4380 RETURN
4390 REM poke aladin pointer (ap)
4400 HB=INT (AP/256):LB=AP-HE*256
4410 FOKE ALADIN-8,HB:POKE ALADIN-9,LB
4420 RETURN
5000 REM ** MISTAKE **
5010 PRINT "Try again, you made a mistake"
5020 RESUME NEXT
```


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## THE SECRET OF ARENDARVON CASTLE

## A MICROWORLD ADVENTURE

Are you craving adventure and excitement，but can＇t afford to travel to distant lands to find it？Then your problem is solved！With this book and your micro you will encounter magic and mystery in the adventure of a lifetime．

This adventure takes place in the remote castle of Arendarvon where a journalist vanishes whilst investigating mysterious events．You must follow in his footsteps through the dangerous and secret passageways of the castle， braving the dangers lurking in the shadows．To help you survive this ordeal， clues to guide you are provided in a wealth of descriptions，maps and illustrations．You must use your skill and imagination in tackling the problems that will confront you．
The program listing is provided at the end of the book．The game takes the form of keywords which must be used to select the appropriate course of action．But be warned．You must be bold if you are to successfully complete the quest in search of The Secret of Arendarvon Castle．
If you enjoyed this adventure，you may be interested to know that further adventures are awaiting you in the Antagonists and the Seventh Generation， also published by Addison－Wesley．

Cover illustration by Bert Vanderveen．
＞¢¢8．75 FPT USA


[^0]:    2990 REM IBM－WEDNESDAY
    उШロロ DATA उロ0ロ，36，29，1，257，44357，47017
    ЗØ1Ø DATA ØK64 7FSH 3XUI GU37 19JY ØF5W VVB3 2YZV 5U6Z XVUS XSI6 US91
     उПЗఏ DATA ØØNA $92 Z 5$ SAZS GUNF RYAA YYJB N6ZX WP5M VW2S $2 X F L$ TSHM 9DZ5 उD4D DATA DDG6 XEAF YDSC BRYJ 96ZD Z5DZ GEDR 4JJW K5XJ FOT4 7PLQ 4GME S05D DATA ロETG UN7Y WSZX FQ96 Z39B FUUA 4VIZ DCSG YXUF CEBE BXS2 AKUZ SØ6ロ DATA Ø59B BEEX S2AS Ø4FX ЗЗCK ØK．6Ø FSXB VLEF YE7D Z396 CUUA 4HBY 3070 DATA ØSTロ Ø96Z HJW5 5899 EEWS 2AS2 H4BF 7MAR 7W6Z SGQ9 bZHJ ZXFS SØBD DATA ØGFS EGMA BOX4 8FOL S 115 YF74 FWSD SUED OIIU OONG TKRN N8OZ उロ90 DATA Øロ7C L71E 55XM AFYZ EV9D Z5MY 1E45 L4ZØ LK2K RCZ7 58ZZ GDOI उ10ロ DATA ØЗWV Q96Z FX86 UXWQ LZNS YFGX UJFH EBEG UXVF JZY5 YFDS 64BP 3110 DATA ØロIB SWDS CBRY FYOZ OD4E 2JED $5 Z X S$ BOUA AB9R RNNF YAQG YIHE 3120 DATA ØSDQ Y5YF LZFI IHDG JWK 3130 DATA Ø25N AQ9Y 47JZ Y5YF S9BI IHE6 56UX VPFC 8W50 C6ZH JEG1 FED5 3140 DATA ØロFX YTCS GBFiY ADOF FZNJ FSDZ $5 D Z 5$ Ø8CS HITU HRHE FSDZ SDZ7 3150 DATA DDE1 DGJX KDZW BSAS FBRY BSDR FZAR YMIJ HE95 E2BE DTE2 GDZ5 3160 DATA ØDJU FSDJ BAEG G6UX VFJZ LGEG T45A З90K MX43 EWBE Y8JB FDZB З17D DATA ØロFU S4BS DDRZ AZ3R 49PA ZXVF R12D उWSY ATVG RYQF 50HJ EG1F 3180 DATA DUIG FIZAY TCSG BRYA GODF ZNED $56 V X$ VFR1 2FDF IBUH UHE9 5E2B 3190 DATA ØDJ 1 RZCS 1BRY AGAØ DZ5D ZMZF SFZ5 FWBG USRK W7Z6 HCSB BFYØ 3200 DATA ØロD4 E1CE DSZE QX45 E666 UXWF JWK6 4GVB 5ASC FX9E ØSLG SHL9 3210 DATA ロロIX Z36H T11N KTL5 XG7B XS4A ASUX 4JE2 GGMB G18E DSHI 7E26 3220 DATA ØロFG S2BI YロFY GEDS EDGD DJXK YLHI B4VL ERYC BZAI VTES GDZN 3230 DATA ØロBL KW20 RKDL D21R Q6S0 ERZA SDNW UCS2 BZ31 ED1E 19ED SM3F $324 \emptyset$ DATA Ø1JO 2RFK ØLD2 FTWG SIGF ZADH ØIV7 उCK9 KRDA WJOH F1E2 BEDS $325 \emptyset$ DATA ØS1Z QGJ1 XPT4 LJZQ SYFE ZSIK LGN2 RRK2 LRC5 UB6X AKZ3 3DOI 326ロ DATA ØT2E RJZL 5XFU I64U W4LJ ZQ5Y FGSS IKL2 DOSM bSG6 BRGC 1JBF उ270 DATA ØロIW RYLD DIE2 BE®5 ZEWI V52H JXKU 4AB4 AUQB RYF4 UWIV 5EJ6 3280 DATA Ø1J4 5ZI0 4LSZ 45YF FNQH F1E1 EGVY 6Q9D BEBX S2A6 LAIV 9E96 3290 DATA Ø5NF KRGW B4CS 日BRY 4559 REO2 1285 GYXV R3XK 3Z8V LEFFY BHT 1 उडØロ DATA ØØNJ EX62 BSES 5SA4 E366 UXWQ KOLD 2FVD 5SDG RZAL SNIV 7E56 $331 \varnothing$ DATA ØロY5 K7IY $565 \boxtimes$ GRZA MXNE QXXV JXKㄱ FDWU CS4B Z35E VZE 1 BEDS 3320 DATA ØロAH LXCI W7ES GZED $140 T$ MG3G DDJF EZE1．BEDS U44I WTES GZE2 З3SD DATA Ø12E 9KCX SFIL HE45 E95D Z7E2 GGUJ VFW9 ZVWM SEAR YADO HE95 334Ø DATA ØロHY S9AX EDS1 BRYA IT2D Z5V1 XL54 BR7B 95YF DXUH YHEA SEC5 3350 DATA Ø2WB AJ4A BR7B C5YF RXGI TZUC WE15 GYF1 FW9Z UYMS EARY ADOL उSGØ DATA ØロNS WS7X AFRY ARYA J4AX GSEK 6DZ5 FX76 VXVQ S1L5 ZFDH KILH 3370 DATA Øロ9I E97S AVGV XXSJ XKRC P400 SVCS XCGY $20 E 2$ L645 BSEK GDZ6 उЗ80 DATA ØロIW TXCF ZARZ BSDB Z3OF X2E1 QGUX UPAR CO2M J4AX G4EJ 6DZG 3390 DATA ØロLG SDJR ZUDP AXGS EJ6D Z555 ARCZ ØIVO CSSE RYJ2 LXOK 1HTB 340ロ DATA ØロFK UOCU OB6B RJFS S9SE 46DZ 7TNT E400 UC4K ED1S उAKX 5Q16 3410 DATA ØロBC 9LYロ FCTF IA9U PFRY BSロF FZZAS DTWW CSSB RYDF F4E1 AEDS 3420 DATA ØロGA KX2E TXXU JXKG 2CWY CS3B RYGE 77E1 AEDS SGGJ 47E4 GDZD S43Ø DATA ØDKD HITE 1 AEØ 57SK ROBD 9X3D UOCU OBFX SDZ5 DZCS AEIX AGQ7 3440 DATA ØロHD RYIG ESSE WE15 ZGØ4 NR4G 74FB LSIM HE45 E15D Z7E2 6DZ7 3450 DATA 0218 R4NR SGGJ FFVI WWFU PCRY BGQ3 SBVE 15ØK AJDD FØSØ ALFH $346 \emptyset$ DATA Ø59Z DBOL 4JFI G3B2 WHZH RUID L95H L4VF ZISU IFHE ASE2 5597 3470 DATA $015 B$ WE15 6RI7 XBD8 SDBZ JHAS IUDU L55S BZDL JYKW QZW5 QK6A 3480 DATA DUIZ TWCR ZAصD FWFK GO6E Z7NY 1SBV 6W7E BSZF FOQK GAFX 9ED5 3490 DATA $\triangle 1 F 4$ BONN JO5X HTYF 285E 356W 5DA5 YFZI CWWD UOBZ उ5K6 AFXG S50D DATA Ø14D JXKF GZWG QKGA FXGE ØSZG FBXI 7XED 8S2B RYEØ CSES SSCG 3510 DATA Ø2K4 ADNN JO5X HSL9 28SE $35 E 1$ 82FJ XK6H FB78 S9BR YCAS DL61 3520 DATA ロD8F 6553 6RED GロRZ ALFN 4ULU U5YF DHUI $7 L 67$ P1ND YMRN OFZA

[^1]:    3990 REM IBM－THURSDAY
    $400 \square$ DATA $40 \emptyset 0,36,29,1,257,47017,48897$
    401Ø．DATA Ø1AØ SEAR D5Z® S4JP 57I7 XWSM 4020 DATA Ø2T1 CJTB XPGX EZEV $79 K Y$ ЗSMM SSAS SARY CS1B RYBJ CBE 1 日EDS 4030 DATA D2JY AS9B GUY5 FASN UOUG VYVF TVGS ZFX7＠KGA JBAD Z7DZ 5E18 4040 DATA Øロ98 EØSS AGJ4 BGFG $9 K Y 3 ~ 2 W H Z ~ X B Q K ~ G A J B ~ A D Z B ~ D Z S E ~ 1 B E Ø ~ 5 S A G ~$ 4050 DATA Ø2ID ASCV EDØL XC4K O2PQ 9NJ4 日GPE GF6G D2ZR KJLS XFT9 EASF 4060 DATA Ø®CG SDWE 85SH 54TJ YLSY FDEI X 4070 DATA Ø1LI 1FAØ LYGU KX3L X2FS 日BRY IHØ9 L610 B5MS TTFH BSU9 UED5 4080 DATA ØSMA FFNQ IIUJ CLGA 3ØTK GL5X NVDE AJJ 1 NJYL 5XJØ 1650 AC4M 4090 DATA ØロDJ XD4E $16 D Z$ GEØ7 GVXV V9HJ BOLX 3ESB BRYI IR9U PULS 5SBZ 4100 DATA Ø17C YRR5 MSV7 ZQ9N 4UTV GRES FWQK GAJB ADZF DZSD ZBED SSDG 4110 DATA ØØЗU ZFTW CRZA Z7BS UCUD JKA9 M21E 15JK IXE4 E16D ZGEØ TEDS 4120 DATA Ø15J CXBW RGFZ AE 18 GVXV ZBTJ $1 \times 65$ ØAXJ DUOB UOJK GAES FEDS 4130 DATA $015 H$ YEQW HZX5 QK6A E28E 0574 FSOF WBDF ØS7D UOBU DJKG AESF 4140 DATA DDAF GVXV X7SK V7TQ 9NXE JMDG DZ5U BWEB 5ZB8 GQED Z7SC VSAV 4150 DATA Ø1GH EKHS ロTK6 L5XN TTFH 8R55 C4KG XKE9 NXEJ E56G FAJB ADZ9 4160 DATA Øロ7K DZSF XGED BL5S 2CK2 KYHN BDOS GBUL GS2I RZAA $36 X E$ SE36 $417 \emptyset$ DATA ØØAT E76G $19 E 0$ SVSJ E76H K9BU YЗQK 2L6D FDEX GNDQ 93FX DE46 4180 DATA DDI2 IGAG 1GED SSC4 EAGD ZGE2 GEDE GVMC F48S XSDU OBS4 BJ1A 4190 DATA Ø2XZ ESBB FYYII ZAS9 AgUX ØF2Y F2JM MP65 GDGØ FZIK UNJ 4 9E96 4200 DATA ØロLB RYIK 4AFY GEDS SA7E AGDZ EFYG EDSZ FP4D ITXI IUZO उGQA 4210 DATA $\triangle 1145 Z 04$ E4GD ZGED AEØ5 730V HBDS IGLD ZSCA 5WSB DFKI 3SUU 4220 DATA $299 L 493 Z$ VRJQ CSL 4 93NV F3QC WL4B $2 X V O$ CQB3 L3V2 XVO2 QDIL 4230 DATA 2NHK 450C IOYO F9TB AVGR 3BIF 9245 DCIO YSAZ L463 XVOY VAZL 4240 DATA D26X L452 TVQY QC4L $452 A$ VOIQ Z64R ZADY GXFJ ENGE WXMS 2ERT 4250 DATA ØØHS DFSX FJE2 GEVX E28E ØYZF M4VL UNDS 7ROQ ITBF XBEØ XEDA 4260 DATA $\triangle \triangle X R$ GDGD DUHR BFYX EDSE Ø5ER GL4K 2AAS VWNG S2DR ZABB SXF7
     4280 DATA DULC DOHE $256 U$ XUFR 4ESY FDOF XSES 8BRY IJIB V82E 55U1 $3 E 56$ 4290 DATA ØØC7 ERGU TVEØ BLS5 1 MK2 KDI2 WUMS BAS1 GRZC S1BR YADU CDZ5 $430 \square$ DATA ØロB D DME ØSJG TEWB EYB7 ØSDI GEGG BDXE XXSA RYAS GBEB CHJE $431 \rrbracket$ DATA 0157 LYUS YFYI QFZC $15 K 6$ LSXN 111 F ZGZ4 BTXG RYQE XCHJ FQKG 4320 DATA ØØEØ 4WNG VBEK 6985 4CS3 BRYA FZCT 7 VE4 BSA7 XGSE $46 D Z 5 X P G$ $43 \Xi \square$ DATA ØロJK X5ES BERY IFZC HJHL $71 E L 5 X M S ~ X G 59 ~ J X W P ~ J X N G ~ S G D D ~ 7 G N C ~$ 4340 DATA ØD1Z ASEJ 6DZS JBED ZSDZ 5E2Z EDSL 6AXH JED7 IFJG D7L6 2SAJ 4350 DATA Øロ1H K8L6 2SBJ ES7F RBGD AL6X SHJE 57GN AGDC ZGFS DSER GEAG $436 \boxtimes$ DATA D®1X W4ER GDZ9 FZXE ØESA TERG DZBF XDE1 XSA4 E77S GUFX EE $1 X$ 4370 DATA ØصLL 6995 7C6J QFXF E1GS A4E9 759X DPTØ ED2B XRHT WMSØ AIEL 4380 DATA $015 Z$ CAM7 89SP AMLO 4WLU WSZF WEOK CCFX HE15 WYSE D7E2 GE4E 4390 DATA ØD2U ZERY BDXD GDKS B2SF JEF7 FYBJ FOXH JEE7 FYBG DLSB 2SF7 4400 DATA ØDSQ NZ5Z FGNC SECR YFXA ERYA RYAX ADRY ARYA Z64R ZAED 5XHS 4410 DATA ØD1K DGED $5 S 93$ E1GD Z6FX BEDS S93E NGER GMS 1 E1TZ FDQC SEX7 4420 DATA ØロSQ 5 XGU IISØ DRZA $6 J 54$ XJYN 5 SFK JI4M PTA 4430 DATA ØロEQ RZBS ロBZ3 DFKD E2日E Ø56U N4SG M3PY SX6D S1ER YBHJ DHJQ 4440 DATA ØBNS 5A4N 2NCB ZN4X LUNS YFRO QGED 85XY QJWM GMFI TDIW HE25 4450 DATA ØD2X LARY AXAJ RYAR YAXA JRYA RYAZ G4RZ AGW7 XISE AGES GFXD

[^2]:    990 REM IBM－SATURDAY
    $100 \square$ DATA $10 \square 0,36,26,2,511,43676,47834$
    1010 DATA ØWU4 TOLK CHBH 1U6Z CAJK NG52 ANØS D54A LKS3 560U KCTB TصUH 1020 DATA ØQLQ HIG7 SRXQ NY6C VB92 7JZC AXKN TSFO UKCY BTØV HCAB VロFO $1 \oslash 3 \varnothing$ DATA ØD54 6XPW 970T IB7K RWC9 NZRA IO7K RJYA OK9W 5IOU KCZB LIOR $1 \oslash 4 \emptyset$ DATA ØX55 KOUK BK5L 2IB6 YAJ2 JVFL GZ7K RSYB 6737 5OAN ØSDR EOFD 1050 DATA ØDWB 3XHI $26 Z 2$ BAXM $6 X H I 2660$ CDØF ZQWC I $6 F U 5 T O U$ KBKC F2SS $1 \oslash 6 \rrbracket$ DATA ØDXH B534 WKEV XHI2 6ZU9 CXNC XHI2 6DKB C2LB ZCBJ LNID J1W2 1070 DATA ØKJB EC92 UBZC AJYU HYHO UUBE CQ3S BL5I 57HP 534W KMFG 7OUK 1 1ロB® DATA 1GDB KG4F DUCU 37B6 YBKG 4ICP 5X1W 8S4J I7KR WCIK ØD2B OAGL 1090 DATA 14 J 6 F9CZ ZVXD F7ØN JHL7 KRWC WDBG YAD3 F8ES DSH7 TØ1X HIZZ 1100 DATA 1CSC 1AGV CDC1 AGBQ KIM7 KRSX AJKN H534 W7D7 URPE Uø45 SOUK 1110 DATA $2 S 00$ Nひ9Z D9FQ XDCB DAG5 CMBC DHXD EBDA GSCM BCDH XDCB OAG5 1120 DATA 1DFA DHUW CBBC AG5C MC23 NBZC EHKN 6500 UKDJ BL10 WCFB KG4F 1130 DATA ØXVS 34WL KF4R B8KQ EXEW 7BZC CCKM F520 UKロ7 J7V3 Lص45 SOUK 1140 DATA ØSVZ GNQZ 9ZDA 2NBG YDD1 XFOS XHI2 GKUI R7KR 3YCD EPG5 GOUK 1150 DATA $16 G W$ CVZY FLIM 7KRS Y4M7 $875 G$ OUKE GDGS TBGY ADWB GCF5 XOVC 1160 DATA 1 BMD KWB9 PLKE 7KR4 P6Q8 JD74 9CMP IDJG UEØK 3YOU KBKD R44B 1170 DATA ØNØZ C9IL LT78 A8DQ 7500 UKPL IU9Q PXHI 266W ADUZ IロQX HI26 1180 DATA $1 J T 5$ V®FW CP5X WNLC LDZ4 CBZC 9ILL T7BA 80R7 5OOU KBEC 9UBO 1190 DATA 1 RVJ D7KR ЗY4V XM3X HI26 EFSY $10 W C$ PSXD PWDW XSWA BGYA JZRM 1200 DATA 1111 SOUK BKSY ØPWC FSX® PWCM CU 37 BZC9 IØU7 5OOU KBKB FWRQ 1210 DATA ØH5P LIM7 KR3Y CDER $65 G 0$ UKBE C11X 9F5E 50VB ZC9I ØK7X UPUØ 1220 DATA $15 K 5$ JOUK FRKR $75 J 3$ SB0日 K75J ANロS 75JR D812 XHI2 ØD5E 9VKX $123 \square$ DATA ØJZZ ØANØ SD7日 ABNE ESS4 WL®F XSPY WZ4D CBK7 7 TOU KBK 1240 DATA ØHME QAD4 QBZC NPCP LIM7 KR3Y 4RKM 1 XHI 2619 4ZOU KBKE GJVV 1250 DATA $116 Y$ HQNG FKPG BHBZ C9IN HEXH I261 G82D N9KD 534W JLJY NQ80 $126 \oslash$ DATA ØSZ5 GOUK BKSEQ DFOC FSXT 9127 DFLA $67 T O$ UKBE CIIS HFSQ F7A1 1270 DATA ØZ7X HI26 GTAD 2DVP LKZ7 KRWC QXØD 2B9Ø FRCF 5XUN SFU5 XøPO 1280 DATA 1H5S 98WH ZSAN DSDX AOKD 1040 DUJF UXHI 26FW AD2D B6YT 3B7K 1290 DATA 2 TNR $3 Z G \emptyset$ AS5C BGYA DGS5 $1 V 53$ 4WJF Y7HE 1 KEV XHSV ZBED 7NQZ 1300 DATA 1 NCI M7KR 3YBI KEVX HI26 $1 \times 8 J$ ANDS $7 J Q 2$ YFCP 5X®F OF $3 F$ S5HB 1310 DATA ØBCR RW6X Y8S2 LR7K RWCR CDBN BO2A 8CDF 85LB ZCOQ 2JIY URGG 1320 DATA 21CA NDSD SYAY DEID JFXA $27 \times 5$ 4GZB EAE2 UBGY DQ2X CBEM 8MS1 $133 \emptyset$ DATA ØN4G GFG5 TBZC NP9P LEL7 KRWC FNZ2 DXHI $262 E$ W6XN BEKP WGPG 1340 DATA $133 X$ HI26 2HW6 J9SQ WCI 1 KR3Y $455885 X A$ NØSD NA10 5BDA D®QB 1350 DATA ØB6U R3Y4 SXMS 5XOU KBKS T®PW RQJL ZKIX HW97 QTCG 7KRW CHY』 1360 DATA DDRK VXHI $26 Z 8$ 9CZA UXZY ØBGY ADUR 6CPK 4QTD QXMC 7KRR HW97 1370 DATA ØJRØ $37 W A$ NEZE XERA W73A D2GB ZCNP FQWC I6FW KMGU GCPS X®PR 1380 DATA ØP52 M770 GPQW CIGF NW60 9ZTC ME7K RЗYE TJFY 9AOU KBK5 RQPR 1390 DATA 1ASP JROK CFK4 LNLP LIP7 KR3Y T539 2356 Ø5N7 5JOU KEKU BMGF 1400 DATA 25NF $26475 J 0 U$ KCFF LMIR BEN4 LWTH $8 G 41$ Q1CF K4LN VCKK 4LNW 1410 DATA ØFMC AAD6 MBZC A9FE FSBT HKFF $435 N$ DOWC IKGZ 9TOU KBEL CA64 1420 DATA 23XA NØS7 T7R4 FG1D 94TB GYUM 7GQ3 ABDA NØS7 5OBH FJIR QF5Z 1430 DATA 25ME 7BE7 9ZFK 62DX HI26 ØL84 9CPO IWCE LZBE 9670 B6YA JWHC 1440 DATA $42 F 0$ NC3K XH3V ZVZ9 62EG HVGW 56B6 YAD2 GB3R XHI2 ØDSB L7AB 1450 DATA $1 Z E 4$ WJFY AEAN 0575 JFZJ FVXH I20R C9F1 7PR1 586E RI65 XØPR 1460 DATA 18SV D7A1 ØJSY ANロS 7XXS M0RH J37K R3SB 3C27 1UOU KBEC 47DJ 1470 DATA $3 D 57$ KCIA $2 Y I 2$ ØD53 3TG6 E9HC ØVC1 Y534 WJFY Z2NE Øø55 XOUK 1480 DATA 3670 PRIE DFØF QRQ4 29F1 W94A KK2D VUNZ US6Y HE7D J42Y 日IYD 1490 DATA 1570 2D1R ATGH XS5X HI20 BLHI ØFWR Q429 FG3V 5BUQ 4UIB 1OUK 1500 DATA 2T1M IB4H XHI2 DPTA Ø1ZO R4A2 EYCB K3JI 2ØBM 18Q2 ØWZ4 29F1 1510 DATA SCT7 DJ4M WCTY WIVS OP5Z D23J I20P UAAF 614 R उYOU KCLW $57 G 4$ 1520 DATA 3 IK 8 BB6Y BAQH BPR4 29F1 4UWC OMF4 VBHA NDS7 WFU日 ロN84 29F1

