

ANIMAL MAGIC

Building the tree with a simple BASIC program is the thick the program is the program of the program is the pro Building the tree with a simple BASIC program is not particularly difficult. Most structures like this not particularly difficult. In this case, using Ten are held in BASIC arrays: in this case, using the held in BASIC arrays: at some of the Continuing our look that you can create, entertaining programs version of the Animals we present our own version of the Animals we have a second of the Animals we have a seco not particularly difficult. Most structures like this and are held in BASIC arrays: in this case using 150 for are held in BASIC arrays: hames of the animals. and the questions and the names of the arimals. are held in BASIC arrays: in this case using [50] for the animals, and the names of the animals entries the questions and the links between narricular entries the questions are the links between narricular entries. entertaining programs that you can Animals we present our own has always heen regarded we present our own has always heen regarded the questions and the names of the animals, and the questions and the names of the animals, and the tree.

You and NO for the links form the path through the tree.

in 15. These links form the path through the tree. we present our own version of the Annals are game. This game has always been regarded an game the commuter an against the commuter and against the commuter against the commuter and against the commuter against the game. This game has always been regarded in the computer, the However, many to the herind ability to the herind as fun because it employs he behind apparent ability employs apparent artificial intelligence programs.

Principles artificial intelligence programs. V() and N() for the links between Particular entries in TS. These links form the corresponding entry in TS. the correspondin Continuing our look in 15. These links form the path through the tree.

For any one entry in 15, the corresponding entry in the path through the answer to look if the answer For any one entry in TS, the corresponding entry in No is the YO tells the program where to look if the entry in NO is the that auestion is wes. Similarly, the entry in NO is the that auestion is wes. V) tells the program where to look if the answer to the tree of an interestion is yes. Similarly, At the end of the of an interestion is not a question but the name of an ink for a negative response. At the text in TSO is not a question but the name of the text in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of an interest in TSO is not a question but the name of a ques link for a negative response. At the end of the tree and the text in T\$0 is not a question but the text in T\$0 is not a question but the text in T\$0 is and NO are set to 0 in this case and the text in T\$0 are set to 0 in this case and the text in T\$0 and T\$0 are set to 0 in this case and the text in T\$0 are set to 0 in this case are set to 0 in this case and the text in T\$0 are set to 0 in this case are set to 0 Animals is a game in which the computer tries to a nimal that the nlaver is oness the name of the animal that the nlaver is the text in TSO is not a question but the name of and and are set to 0 in this case and is animal. Both YO and NO are set to 0 in the nlaver is animal. Both YO make a oness that the name of animal the propram has to make a oness that the propram has to make a oness that the name of animal the propram has to make a oness that the name of animal the propram has to make a oness that the name of animal the propram has to make a oness that the name of animal the propram has to make a oness that the name of an animal than the name of an animal than the name of an animal that the name of an animal than the name of animal th Animals is a game in which the computer tries to is a game in which the animal that the player is animals in a game of the animal that the player is animals in a game of the animal that the player is a game of the animal that the player is a game of the animal that the an animal. Both Y() and N() are set to 0 in this case and animal. Both Y() and N() are set to 0 in this case and the program has to make a guess that the player is the program has to particular animal. guess the name of the animal that the player is thinking of the does this by asking questions such as thinking of the furty? and so on you are thinking of the first is furty? thinking of It does this by asking questions such as it thinking of It does this by asking questions you are allowed to answer works its way to a point where allowed to answer works its way to a point where allowed to answer works its way to a point where allowed to answer works its way to a point where allowed to answer works its way to a point where allowed to answer and computer gradually works its way to a point where an 'educated' guess. Obviously, it is allowed to answer and computer gradually works its way to a point where an 'educated' guess. the program has to make a guess that the player is
the program has to make a guess that the player is
the program has to make a guess that the player is
thinking of that particular animal.
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If the program has to make a guess that the player is
thinking of that particular animals.

This version of the program has been kept short.
If the program has to make a guess that the player is Ithis version of the program has been kept short if and simple to show you the principles involved the and simple to enhance it. you could improve the and simple to enhance it. and simple to show you the principles involved. If and simple to show you the principles involved the interpretation for your machine by adding colour presentation for your machine by a different pres computer gradually works its way to a point where it can make an educated guess. Deople who aren't quite surprising, especially for people who aren't you want to enhance it, you could improve the presentation for your machine by adding colour presentation for your machine had and so on. A major improvement presentation for your machine by adding colour presentation for your pre or can make an educated guess. Obviously, it is able to an make an educated guess. Obviously, it is able to an make an educated guess. Obviously, it is able to an make an educated guess, that the program of the progr presentation for your machine by adding colour graphics, sound and so on. A major improvement storing of the program some way versions of the program some best versions of the program. The that people have a would be to give the product those that people have built up a database you can find are those that have built up a test database you can find are those that which have built up a been playing for years, and which have been playing for years. familiar with computers, that the program is able to do this. The two aspects that make the computer's ability to do this. The two aspects the computer's ability to do this. to do this. The two aspects that make the program if your particularly entertaining are the English (even if your to communicate in sensible English) particularly entertaining are the computer's ability out to communicate in sensible English (even and no) and the to communicate in sensible and no) and the Animals you can find are those that people have a built up a been playing for years, mythical animals. Objects, been playing for animals, mythical animals. to communicate in sensible English (even if your can own responses are limited to 'yes' and the computer can own responses are limited to at the computer can wast store of knowledge that the computer can be as a store of knowledge that the computer can be a store of knowledge that the computer can be a store of knowledge that the computer can be a store of knowledge that the computer can be a store of knowledge that the computer can be a store of knowledge that the computer can be a store of been playing for years, and which have built up a objects, and which have built up a nimals, mythical animals, mixed up yast free of animals, friends and so on, all mixed up yast free people. Friends and so on, all mixed up ownresponses are limited to 'yes' and 'no') and the computer can wast store of knowledge that the computer can wast store of knowledge animal. vast tree of animals, mythical animals, objects, more famous people, friends and so on, all mixed more famous people, friends and so on, all even more into one preamtic database. famous people, friends and so on, all mixed up more more database. An even the first into one gigantic database vou to set the first into one into one into one into one pigantic database. Iraw on to guess the animal.

Iraw o into one gigantic database. An even more the first impressive version would enable you to set the first impressive version and after and edit entries in the tree so impression and after and edit entries in the tree so impression and after and edit entries. impressive version would enable you to set the first on the tree so and alter and edit entries in the for more question and alter would be practical for more that the program would be presented in the program would be presented to the presented question and alter and edit entries in the tree so that the program would be practical for more than the program would be program which is the prog improve its Performance as it is running. When the animal knows only two whether program is first used it knows only two whether program is first used in Denending on whether program is first used in the program is firs draw on to guess the animal. program is first used it "knows" only two animal on whether at the program is first used it "knows" only two animal on program is first used it "knows" only two animals on whether at the program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on whether a program is first used it "knows" only two animals on program is first used it "knows" only two animals on program is first used it "knows" only two animals on program is first used it "knows" only two animals on program is first used it "knows" only two animals on program is first used it "knows" only two animals on the program is first used it "knows" on the program is first used it is to be a program in the program is first used it is to be a program in the program is first used in names and one question. Depending on whether at the computer guesses at the computer guesses are first or not your animal is the certainly will do the first what your animal is defined what your which it almost certainly will do the first what your animal is defined and what your animal is defined to the first whether the first whether the first whether the first whether the first which it almost certainly will do the first whether the first which it whether the first whether the first whether the first which it was a first whether the first which it was a first whether the first which it was a first whether the first which whether the first whether the first which whether the first whet what your animal is. If the computer guesses first, what your animal is certainly will do the name of whom your animal almost certainly enter the name of whom your animal and a question to distinguish it from time), the program asks you to distinguish it from time), the program asks you to distinguish it from time), the program asks your animal and a question to distinguish it from time), the program asks your animal and a question to distinguish it from time). time), the program asks you to enter the name of This your animal and a quess at your animal. This program's quess at your manimal program's animal animal the program's animal animal animal the program's animal a your animal and a question to distinguish it from the program's then a tree of knowledge that it information is then a tree of knowledge that it database to build up a tree of knowledge that it serious uses. information is then added to the program's that it database to build up a tree of knowledge that the database in the next pame. Every time you may the can use in the next pame. database to build up a 'tree of knowledge' that it database to build up a 'tree of knowledge' that it he can use in the next game. Every time you play the can use in the tree increases in size until finally the game.

Basic Flavours

This program is written in Microsoft BASIC so it should run unchanged on most machines; the only change you might want to make is to the format of the PRINT commands, if you don't like the screen

On the Spectrum, all assignment statements must begin with the keyword, 'LET'. Rewrite the following lines as shown:

45 LET L=40 : REM No. of chars. in a question 50 DIM Y(N):DIM N(N):DIM T\$(N,L)150 LET I\$=A\$(1):LET P\$="A" 200 IF A=30 THEN PRINT:PRINT "BYE":STOP 230 IF Y(P)=0 AND N(P)=0 THEN GOTO 290

can use in the next game. Every time you play the until finally the game, the tree increases in size until animals correctly game, the tree increases of vour animals correctly program is onessing most of vour animals correctly game, the tree increases in size until finally the program is guessing most of your animals correctly and only occasionally discovering a new one. and only occasionally discovering a new one. the about any occasionally discovering a new one. the about anything about the interesting point to remember hing anything a guide made up program still doesn't following a guide made up program It is blindly following a guide made up any any any any any area. program is guessing most of your animals correct that any occasionally discovering a new one.

The interesting point to remember is that and the interesting point to remember is that any occasionally and the interesting point to remember is that any occasionally and the interesting point to remember is that any occasionally and the interesting point to remember is that any occasionally and the property of the propert program still doesn't know, anything about program still doesn't following a guide made up a guide made up animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. It is blindly knowledge of all the players animals. from the combined knowledge of all the players
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who have played it. who have played it. The information might as well be about different types of beer, motorcycle party. A be about different types of vour friends and family. A medical complaints or your friends and family. be about different types of beer, motorcycle parts, A
medical complaints or your friends and family.

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yersion of the program that allowed you medical complaints or your friends and family. A reserved were could be used to define allowed you to define a westion of the program two answers could be used the initial ouestion and two answers could be used the initial ouestion and two answers could be used to version of the program that allowed you to define the initial question and two answers could be used the initial question and two answers tasks. In other the initial question and two answers tasks. In other the initial question and two answers tasks. In other the initial question are the initial question and the initial question are the initial question. the initial question and two answers could be used in other tasks. In other for a whole variety the data itself that makes the words. It is not the data itself that for a whole variety of different tasks. In other the words, it is not the data itself which it is being brogram work but the way in which it is being brogram. words, it is not the data itself that makes the program work but the way in which it is being programised. organised.