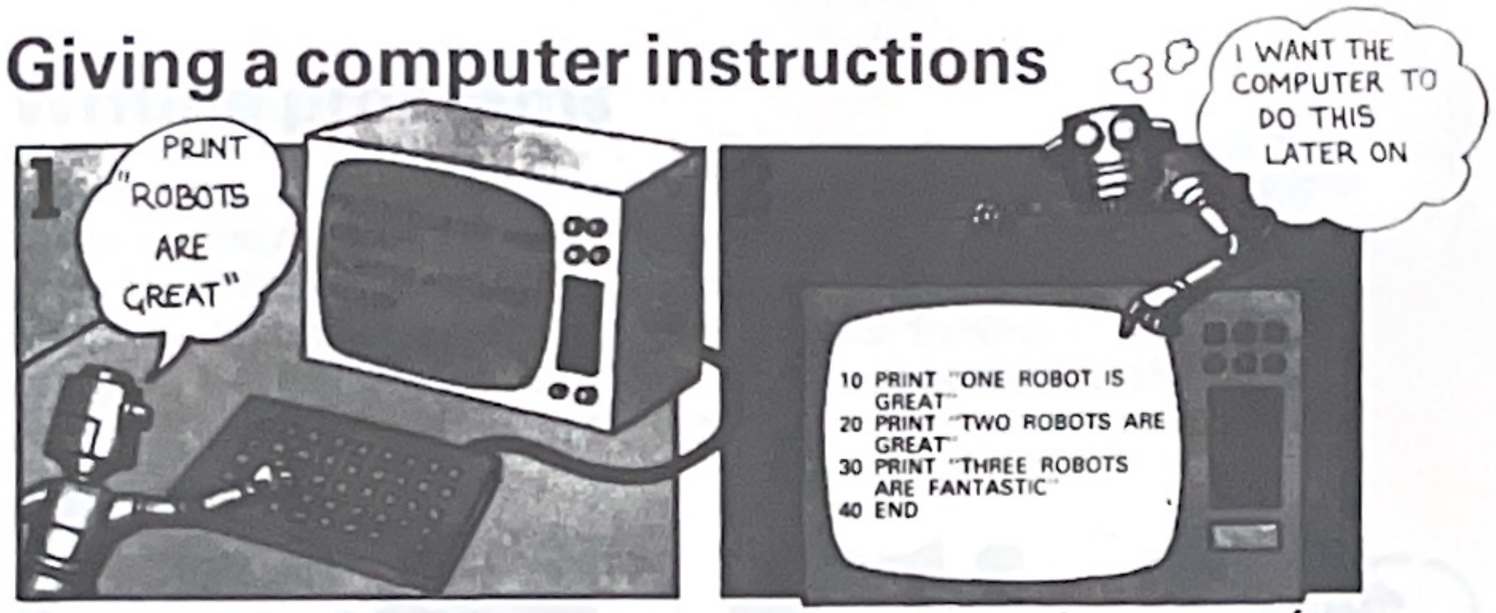
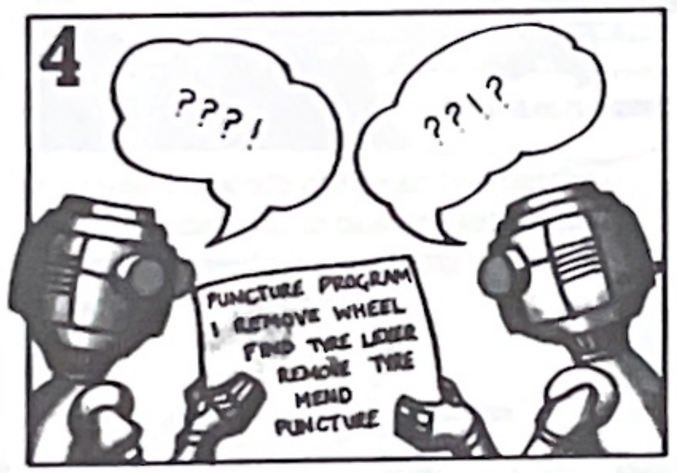
Giving a computer instructions

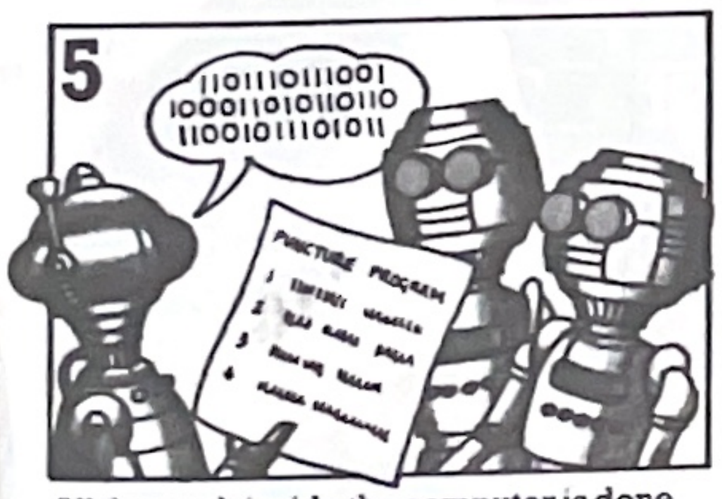


To make the computer do something, you have to type in an instruction it understands. This instruction can be a direct command which it carries out straight away, or it can be a program of instructions which it stores in its memory and does not carry out until you give it the go-ahead.

The instructions in a program have to be very carefully worked out. The computer will attempt to carry out your instructions precisely, even if they are wrong.



The computer cannot understand instructions written in our language, so you have to write them in one of the many computer languages. Some of these languages are described opposite.



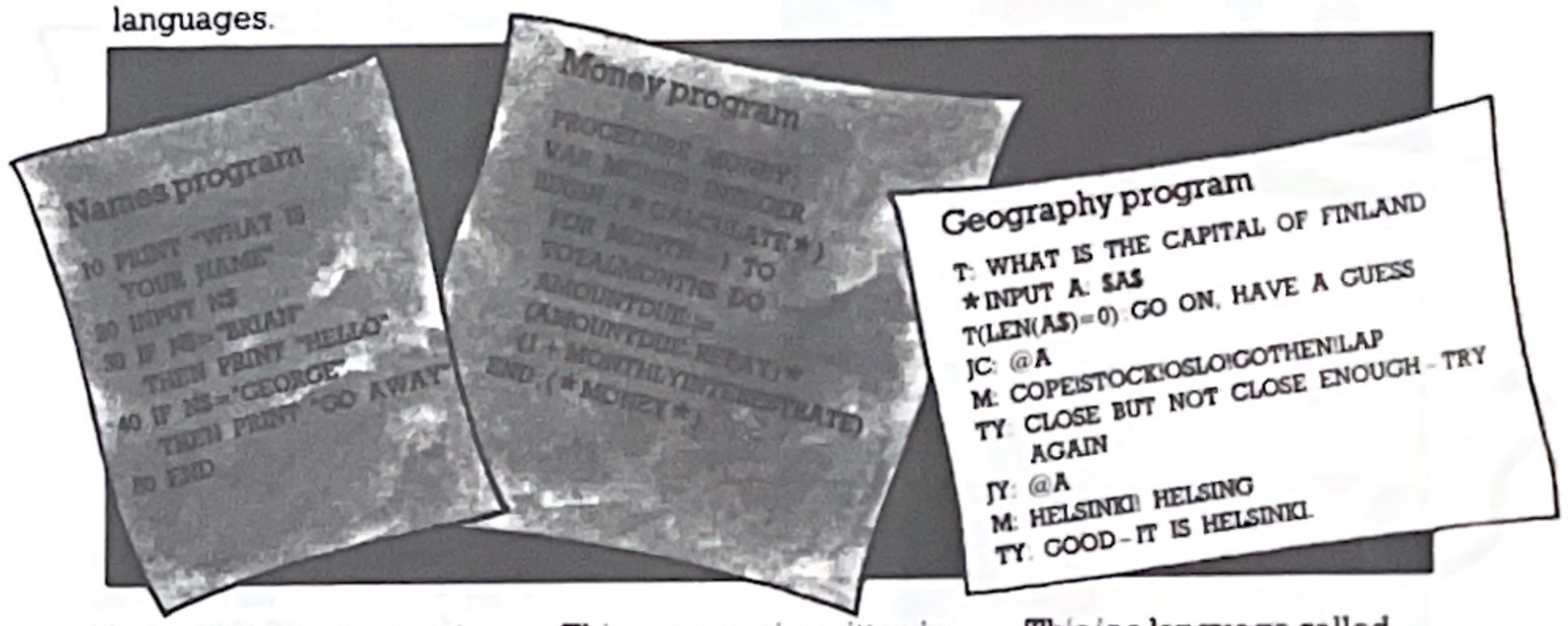
All the work inside the computer is done with a code of tiny pulses of electricity. Your instructions are translated into computer code by a special program inside the computer called the interpreter.

Each piece of information in computer code is represented by patterns of pulses. Computer code can be written down using 1 to represent a pulse and 0 to show there is no pulse.

Computer languages

You could write programs in computer code but it would be very difficult. Instead, there are special computer languages, called high level languages, which the computer can translate into its own code.

There are hundreds of different high level languages, many of them specially designed to do one particular kind of work. BASIC is one of the most common languages. The letters stand for Beginner's All-purpose Symbolic Instruction Code. It is not just used by beginners though. Below there are examples of three different languages.



This is a short program in BASIC. Line 10 tells the computer to print "What is your name" on the screen. Then the computer stores your answer in its memory and if your name is Brian or George, it prints out a message to you.

This program is written in Pascal, a language named after a famous French mathematician. It is part of a program to work out details about money. Many people think it is easier to write good, neat programs in Pascal than in BASIC.

This is a language called PILOT. It is used to write programs to help people learn new subjects. In this language, the computer can recognize answers even if they are not exactly right.

11. Bb3, Ne5
12. 0-0-0, Nc4
13. Bxc4, Rxc4
14. h5, Nxh5

At first glance, computer languages seem very strange and difficult, but then, so do other languages such as the Finnish shown on the right, until you get to know them. There are lots of other subjects too, in which special languages are used. For instance, in mathematics a special notation is used to write down ideas and formulae which would need a lot of ordinary words to explain them and other kinds of notation are used to write down chess moves or music.

*Minus fifteen I guess.