



Charting The Course

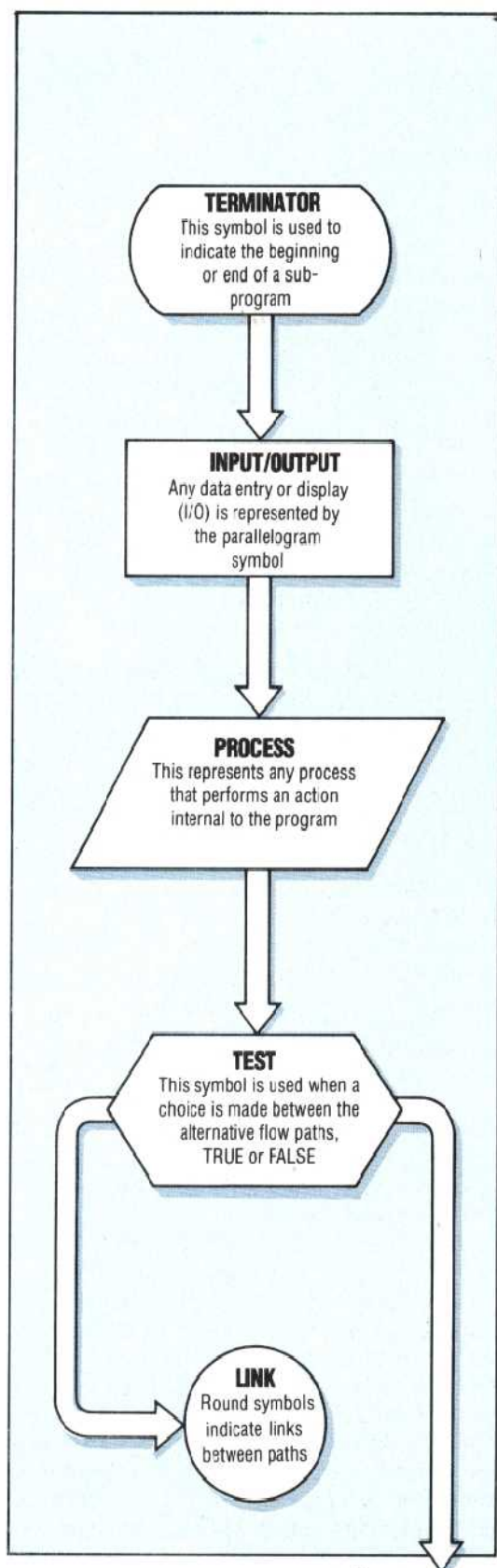
The conscientious use of flow diagrams leads to efficient and well-organised programs

The Flow Of Information

The real purpose of a flow diagram is to indicate in a simple, concise manner, the flow of information and control through a computer program.

Most important are the 'test' points, where control passes to a point other than the next in sequence. A simple graphical representation of this passage of control is much easier to grasp than a similar statement written out — a picture really can be worth a thousand words!

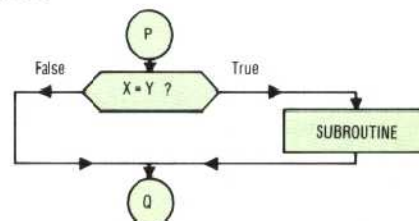
The 'TEST' symbol can be represented by either a flattened hexagon, as shown here, or by an elongated diamond shape



A problem can be represented in a simple pictorial way by drawing diagrams to show the steps required in processing, and the flow paths or routes connecting them. These 'flowcharts' are useful as a means of understanding a problem, and in working out its solution.

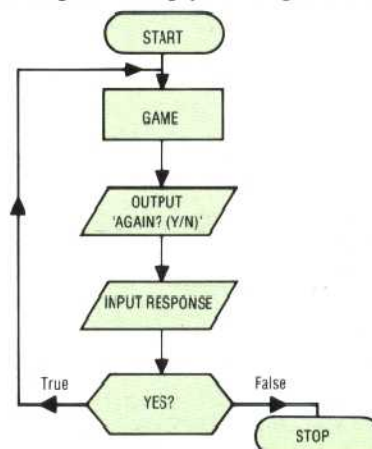
Each box symbol in a flowchart represents a process or action, and the lines that connect these action boxes depict the possible paths through them. 'Traffic flow' is one-way, so arrows are used to indicate direction, which is normally top to bottom, and left to right across the diagram.

Whenever a choice is to be made, a hexagonal or diamond shaped 'decision box' is used. Control flows in by one path, as before, but may pass out in one of two directions, depending on the result of the test in question. If the test is to determine whether a single process is to be performed or not, then only one of the exit paths will contain a 'process box'. Here is an example of a test to decide whether or not to branch to a sub-routine:



120 IF X = Y THEN GOSUB 300

The decision box is also used to indicate the test that terminates a loop. In the example given below, control is returned to the start of a program if there is a positive reply to the question 'AGAIN?':



90 REM **START OF GAME**
100
800

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