

- 1 The sentences explain how to determine the behaviour of a microcontroller.  
Put the sentences in the correct order.

Reset the microcontroller.  
 Draw the program as a flowchart.  
 Translate the flowchart into machine code.  
 Transfer the program into the microcontroller.  
 Connect the microcontroller to the computer by a cable.  
 Enter the flowchart into a computer running suitable software.

- 2 Link each **term** used in the context of a microcontroller to its **meaning**.

term	meaning
PIC	program run by host computer
software	sequence of bytes in memory
program	programmable integrated circuit
hardware	sequence of operations required
flowchart	the logic gates in an integrated circuit
machine code	diagram representing sequence of operations

- 3 Here are some statements about programmable systems. Which of them are correct?

They always have eight inputs and eight outputs.  
 Once programmed, their behaviour is fixed for ever.  
 They can only deal with digital signals at their inputs.  
 Their widespread use makes them cheap to produce.  
 Their behaviour is determined by the software they run.  
 Their behaviour can be simulated with a host computer.  
 Their reaction time is faster than that of hard-wired systems.  
 They are often cheaper to implement than using NAND gates.  
 They can save money by replacing many logic gate integrated circuits.  
 Microcontrollers can deal with analogue signals at their inputs and outputs.  
 The same microcontroller can be used to implement many different truth tables.  
 Microcontrollers can only handle analogue signals by converting them into digital ones.