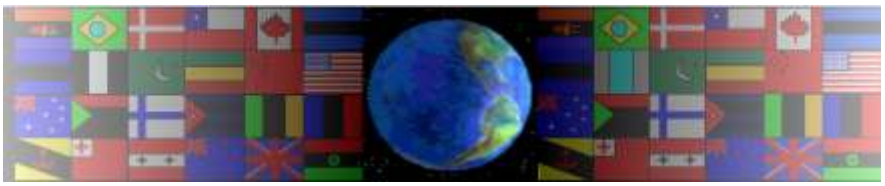
INPUT, PROCESS, OUTPUT - THE PICAXE-08 MICROCONTROLLER

On behalf of The World Association of Technology Teachers

W.A.T.T.



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This exercise can be printed and used by teachers and students. It is recommended that you view the website (www.technologystudent.com) before attempting the design sheet .

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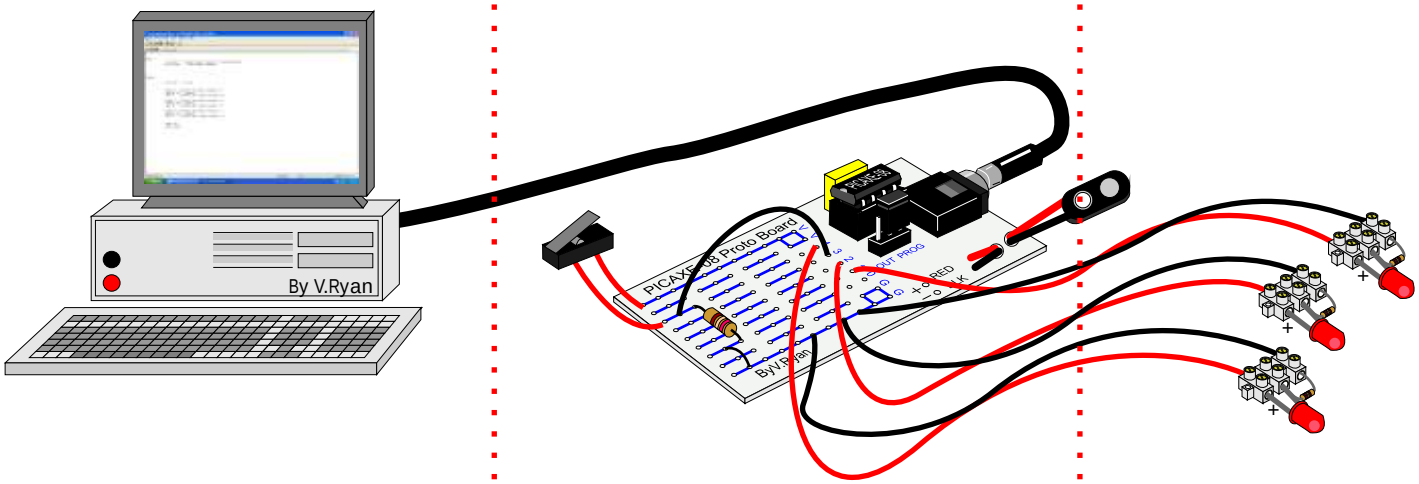
1. A description of a PICAXE 08 starter kit is written below. Complete the systems diagram by adding a simple explanation to the INPUT, PROCESS and OUTPUT stages.

DESCRIPTION: The computer is used for programming. Once the programme has been completed, it is downloaded to the PICAXE circuit using a serial cable which connects to both the circuit and the serial port of the computer. This is the INPUT stage. When the programme has been downloaded successfully the serial cable can be unplugged.
The circuit is autonomous (it will work independently) as long as it has a power source. The power source is normally 4.5 volts. If the micro-switch shown on the example PICAXE circuit below is pressed, the circuit begins to follow the instructions programmed into the PICAXE Integrated circuit. This is the PROCESSING stage.
The programme flashes the LEDs on and off. This is the OUTPUT stage. This simple circuit can be altered so that motors are switched on and off or sound is generated as well as other outputs.

INPUT	PROCESS	OUTPUT



2. Why are Systems Diagrams important, when designing a circuit and especially a programmable circuit/system? You may wish answer this question by describing a programmable circuit/control system, you have designed or manufactured. The key words / phrases may help you answer this question.

PLANNING SEQUENCE OF EVENTS OPERATION INPUT PROCESS OUTPUT ORGANISATION TESTING