# Notes on using Flow Diagrams Code

The 16F876/16F876A/16F886 chip needs to be configured as shown below.

- The 5V power supply is on pin 20 and 0V on pins 19 **and** 8.
- The crystal goes between pins 9 and 10. The crystal is NOT needed for 16F886 chips which have a decent internal oscillator. It is needed for 16F876 types. Must be 4MHz.
- Reset (pin 1) should be tied high, and you will need a push switch (or a bit of wire!) to reset the chip at times. Pin 5 (PM) should be tied high as shown.
- Pin 4 should have an led and a 1k limiting resistor attached at the start. On normal reset this led is flashed at 2Hz by the system to show it is working.
- Pins 17/18 wire to the serial interface via the USB/serial convertors.
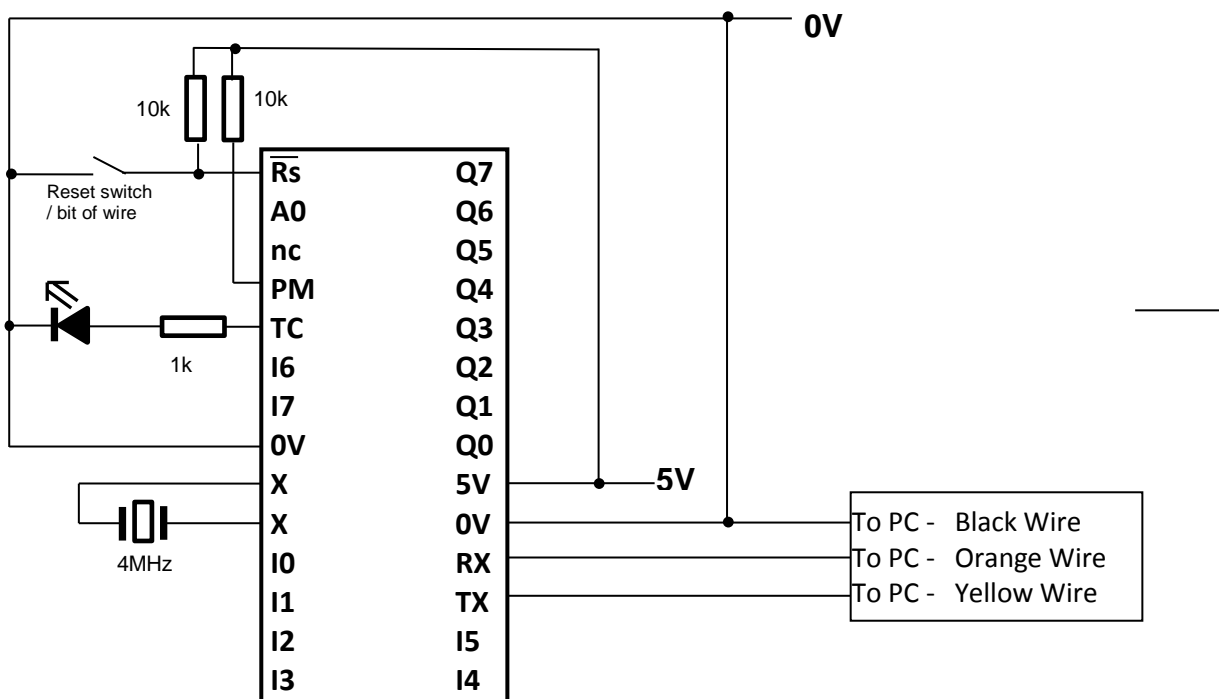
The input port is labelled I0 through I7. The output port is labelled Q0 through Q7.The input to the ADC is labelled A0 and is pin 2. The serial connector to the PC needs to be connected as shown to pins 17/18/19.

In normal use PM (pin 5) is held high. On reset the chip will then enter the program phase, flash the led, and try to establish communications with the host PC. Once programming is finished, if this pin is tied low, then on reset the chip will jump straight to run the user's program.

The code is installed on the PCs in P5, or can be downloaded from
http://students.challoners.com/flowdiagrams/publish.htm

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