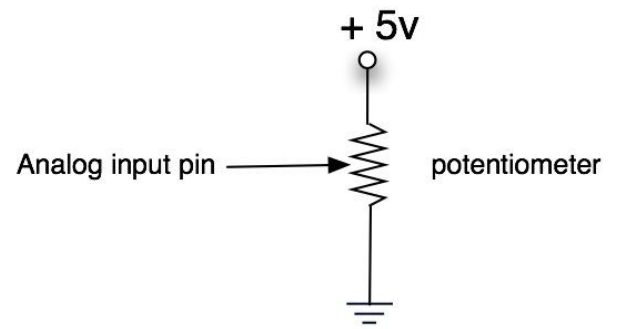
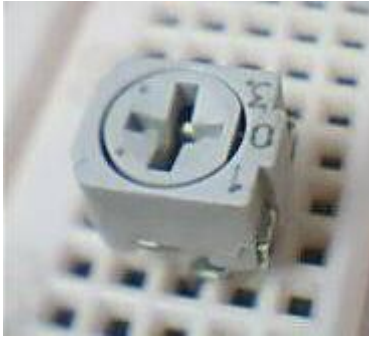


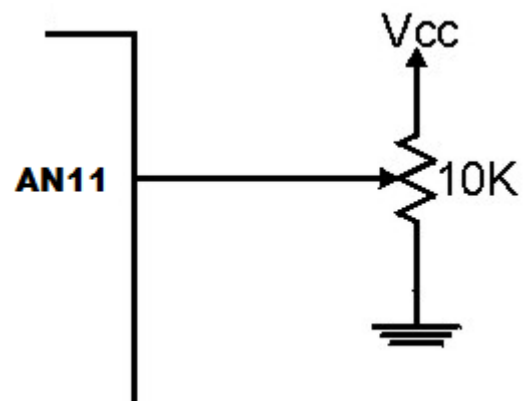
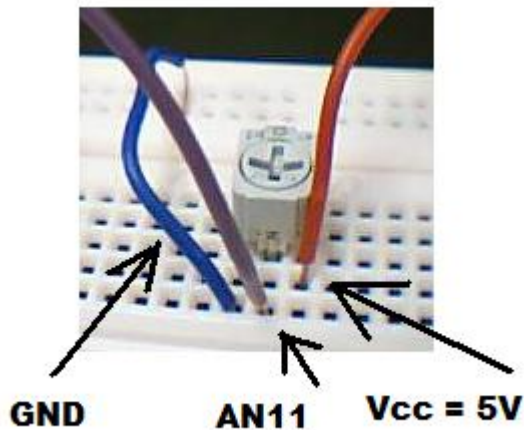
ADC (Analogue to digital) experiment.

We will read analogue voltage across a potentiometer. Connect the middle pin of the potentiometer to analogue input, AN11 and connect two side pins to V_{CC} and Gnd.



10K ($103 = 10 \times 10^3$ Ohm) Potentiometer

Symbol



Rotate the wiper of the potentiometer fully clockwise or anticlockwise.

Using terminal or minicom program, key in the following command.

RD11

The analogue voltage can be calculated using the formula

$$V_{in} = \frac{ADC}{2^{10} - 1} \times V_{REF} \text{ where } V_{REF} = 5V.$$

Rotate the wiper 25% ($\frac{1}{4}$), 50% ($\frac{1}{2}$), 75% ($\frac{3}{4}$) and 100%, and record the value returns by RD11 command.

LDR (light-dependent resistor) experiment.

Application of ADC in PIC18F14K50 as light intensity detector. Here LDR is used as a light sensor. Build the circuit shown in Figure 1. The value of R is 10K. Connect V_{out} to Port AN8 of PIC18F14K50. Run the program ldr.java found in sample folder. Record the maximum reading when LDR is exposed to room light. Then close the LDR surface and record its minimum reading.

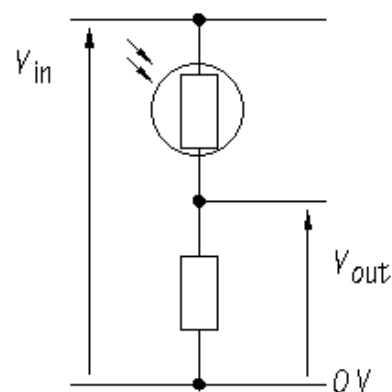
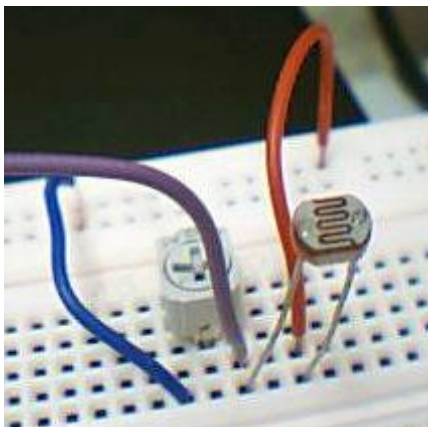


Figure 1