

Write a program in C which will input an analog value from the x-output of the ADXL335 accelerometer. Connect four LEDs to your board as shown in the figure below. The x-output puts out a voltage from 0 to 3.3 volts that is somewhat proportional to the amount of tilt along the x-axis. Your C program should indicate this tilt by lighting up one of the four LEDs to indicate full left to full right.

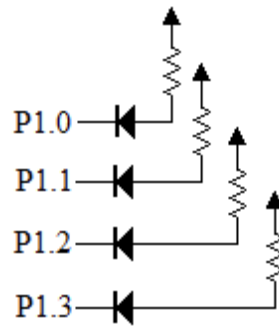


Figure 1

Four LEDs on P1 to indicate tilt along the x-axis.

Turn in the following:

1. Put your software project into a single folder, zip it up, and email the zipped file to the instructor.
2. Turn in a hard copy of your commented source code following the guidelines outlined in the CFormat.pdf document on the web site at <http://csserver.evansville.edu/~blandfor/EE354/CFormat.pdf>
3. Bring your working project to class on the due date and do an in class demonstration.

Notes:

1. For this project you will need to obtain an ADXL335 chip mounted on a small PCB. You may need to solder the pins to the board.
2. Connect the ADXL335 board to *either* +5volts **OR** +3.3 volts and a ground.
3. Read the analog out between the xout pin and ground.
4. You will need to do some experimentation and measurements to determine the amount of voltage change you get from the chip and which direction of tilt it corresponds to.
5. The data sheet for the ADXL335 and a schematic of its mounting board at: <https://csserver.evansville.edu/~blandfor/EE354/AccelerometerData.zip>