SIT210: Embedded Device Development

Task 3.1P mBed: Setup an mBed using online compiler and drag-and-drop

# Hardware Required

mBed

# Software Required

Web browser

# Pre-requisites: You must do the following before this task

1) Register an account with MbedOS at https://os.mbed.com

# Task Objective

This is an introduction task to mBed platform and build a simple motion sensing circuit.

# Steps:

## 1)  Import the first program onto your mBed:  https://os.mbed.com/docs/v5.6/tutorials/blinky-on-the-arm-mbed-online-compiler.html

## 2)  Design a simple circuit board that use a distance sensor to activates the LED a) Use: Sharp GP2Y0A21YK0F distance sensor b) Here is a tutorial for using the Sharp sensor with Arduino. Your task is to  implement this step using mbed  http://www.instructables.com/id/How-to-Use-the-Sharp-IR-Sensor- GP2Y0A41SK0F-Arduin/  Hint: For testing purpose, you should print out distance value to terminal for testing. For windows you, can use PuTTY: https://os.mbed.com/docs/latest/tutorials/serial- comm.html

## 3)  Modify your code to light up the onboard LED light whenever movement is detected. a) Tip: You need to devise a logic to use distance sensor to achieve this task.

## 4)  Compile the code and copy to the mbed.

# Task Submission Details

## Q1: Submit a video in which you explain your circuit board and its functionality, explain the code and perform a demonstration of the outcome.

I did not have the specified sharp sensor, so instead used two different sensors to implement different parts of the task. I included video and code for each.

[Infra Red Sensor](https://youtu.be/pP-S_LhSFac)

[Ultrasonic Sensor](https://youtu.be/ulPUA7LZXjg)

## Q2: Create a repository named mBedMotion on Github. Upload your code to the repository. Include the link to your repository here.

<https://github.com/stopkickingtherobots/mBedMotion>