COCSC20: Internet of Things

Exercise 3

Interfacing of LDR and PIR Sensors with Microcontroller Board

Objectives of this lab experiment

1. Introduction to Light Dependent Resistor.
2. Introduction to Passive infrared sensor.
3. Understanding, functioning and applications of Sensor.

Experiment:

Design a circuit for interfacing the LDR Sensor and print the value of light intensity at various instances.

Design a circuit for interfacing PIR Sensor and discuss the use of status variable in the sketch.

Submission on LMS: Following point you must submit in the assignment.

1. Problem description required Components and circuit diagram.
2. Explain the concepts, experimental, and programming skills that you have gained during this experiment. Discuss the results and comment on the reasons for the errors.
3. What is the maximum and minimum Analog Digital value of LDR Sensor? Write five real time applications (not from internet) of both the sensors.

Reading Materials:

1. https://maker.pro/arduino/tutorial/how-to-use-an-ldr-sensor-with-arduino
2. https://www.kitronik.co.uk/blog/how-an-ldr-light-dependent-resistor-works/
3. https://learn.adafruit.com/pir-passive-infrared-proximity-motion-sensor/how-pirs-work
4. https://www.elprocus.com/passive-infrared-pir-sensor-with-applications/
5. https://www.elprocus.com/pir-sensor-basics-applications/
6. https://learn.adafruit.com/pir-passive-infrared-proximity-motion-sensor/using-a-pir-w-arduino
7. https://randomnerdtutorials.com/arduino-with-pir-motion-sensor/
8. https://www.tinkercad.com/