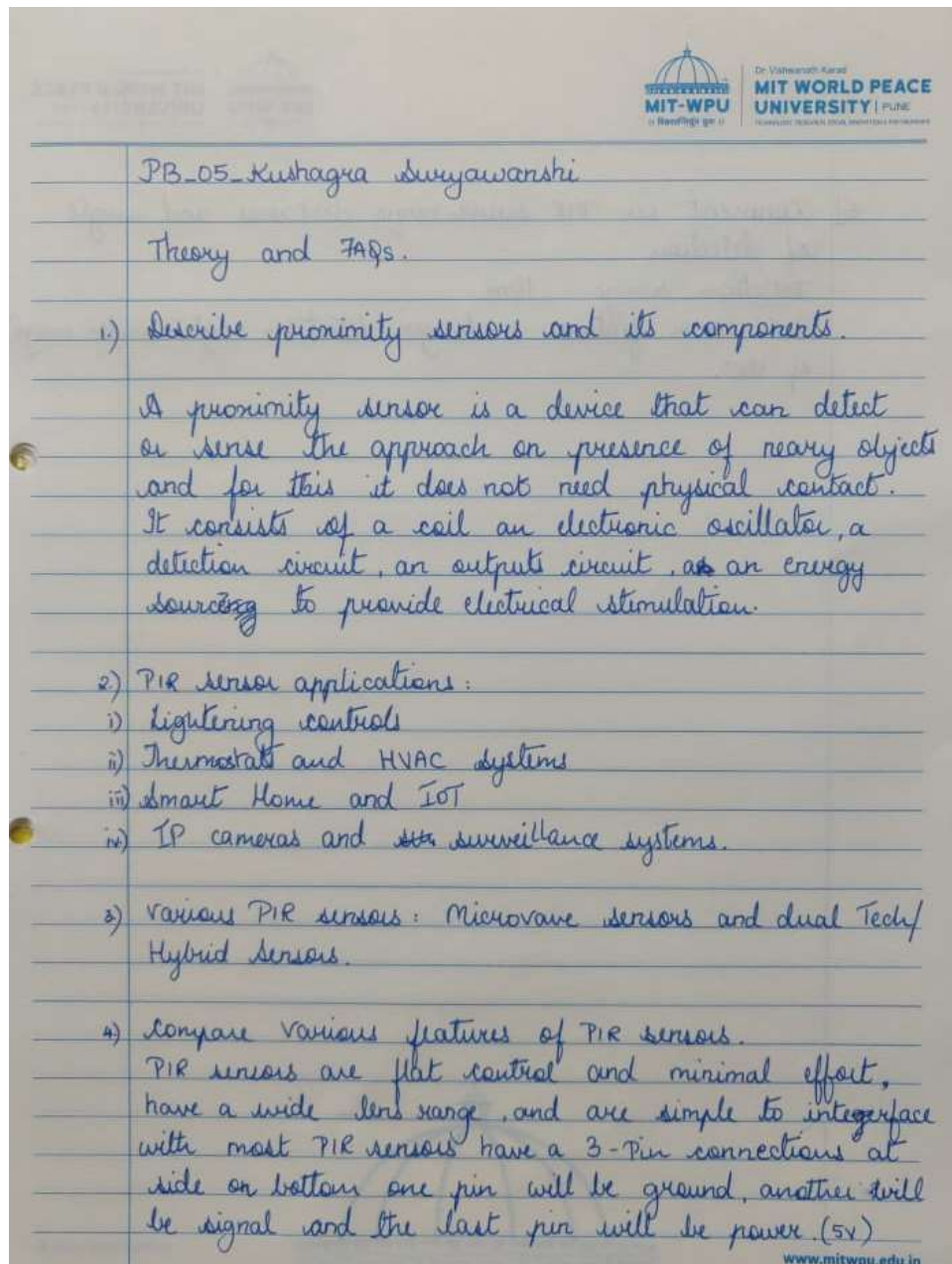


EIOT LAB ASSIGNMENT 5

Aim: To simulate an operation of obstacle detection and notifying it with buzzer or LED using Raspberry-Pi/Beagle board/ TinkerCAD Arduino etc.

Theory/FAQs:



PB_05_Kushagra Suryawanshi

Theory and FAQs.

1) Describe proximity sensors and its components.

A proximity sensor is a device that can detect or sense the approach or presence of nearby objects and for this it does not need physical contact. It consists of a coil, an electronic oscillator, a detection circuit, an output circuit, and an energy source to provide electrical stimulation.

2) PIR sensor applications:

- Lighting controls
- Thermostat and HVAC systems
- Smart Home and IOT
- IP cameras and surveillance systems.

3) Various PIR sensors: Microwave sensors and dual Tech/Hybrid sensors.

4) Compare various features of PIR sensors.

PIR sensors are flat control and minimal effort, have a wide lens range, and are simple to interface with most PIR sensors have a 3-pin connections at side on bottom one pin will be ground, another will be signal and the last pin will be power (5v)

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5.] Comment on PIR sensor range, distance and angle of detection.
Detection range : 10m
PIR sensor features a longer detection angle (wider range) of 180° .

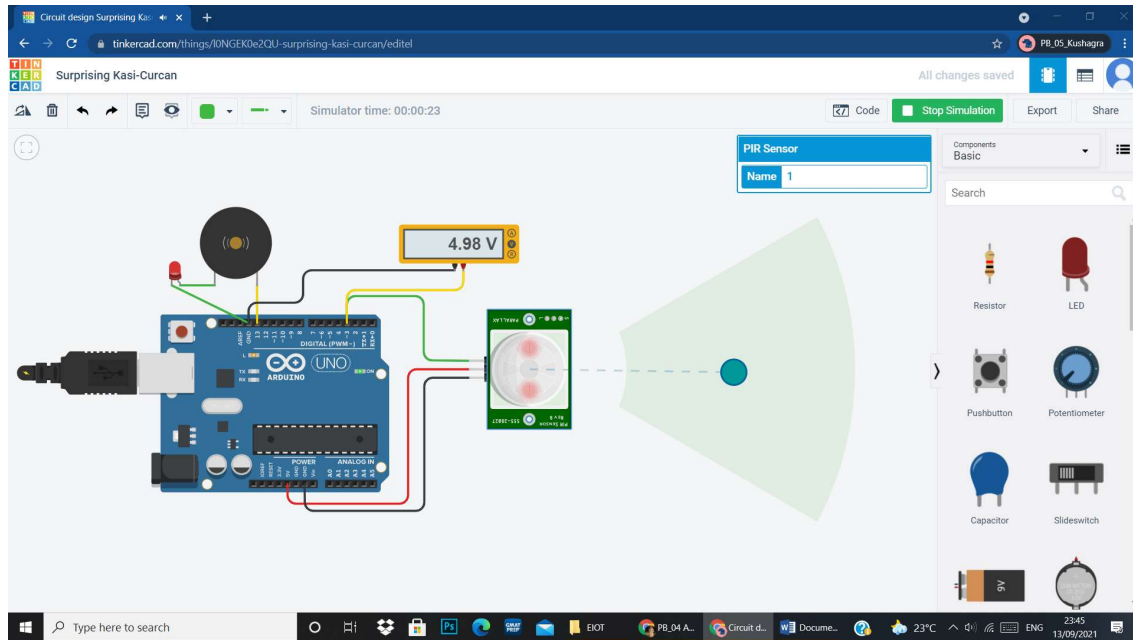
Code:

```
// C++ code
//
void setup()
{
  pinMode(3, INPUT);
  pinMode(13, OUTPUT);
}

void loop()
{
  if (digitalRead(3) == HIGH)
  {
    digitalWrite(13, HIGH);
  }
  else
  {
    digitalWrite(13, LOW);
  }
}
```

```
delay(10); // Wait for 1000 millisecond(s)
}
```

Design/Output:



Simulation: https://www.tinkercad.com/things/l0NGEK0e2QU-surprising-kasi-curcan/editel?sharecode=SbhjGikuwF5-W2VNu3f_FcducMmmyfOLVMAh1xnb-8k