

Name Shabbir Ezzy

Roll no-10

Batch S1

PRACTICAL NO.12-

AIM Understanding the connectivity of Arduino with IR sensor. Write an application to detect obstacles and notify users using LEDs

-----CODE-----

```
Void setup()
Serial.begin(9600);
(12, OUTPUT);
pinMode=(13, OUTPUT);
}
void loop()
int s1-analogRead(40);
Serial.println(s1);
delay(200);
if(s1>100)
{
digitalWrite(12,LOW);
digitalWrite(13, LOW);
}
else
digitalwrite(12, HIGH);
digitale ite(13, HIGH);
}}
```

----- OUTPUT-----

STEPS-

1. Gather the necessary components:

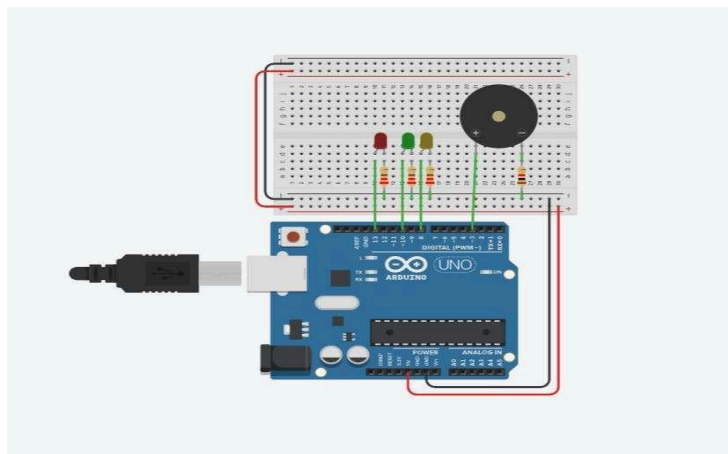
- Arduino board (such as Arduino Uno)
- IR sensor module
- Two LEDs (any color)
- Jumper wires
- Breadboard (optional, for easy connections)

2. Connect the IR sensor to the Arduino:

- Connect the VCC pin of the IR sensor to the 5V pin on the Arduino.
- Connect the GND pin of the IR sensor to the GND pin on the Arduino.
- Connect the OUT pin of the IR sensor to analog pin A0 on the Arduino.

3. Connect the LEDs to the Arduino:

- Connect the positive (longer) leg of one LED to digital pin 12 on the Arduino
- Connect the negative (shorter) leg of the same LED to GND on the Arduino.
- Connect the positive (longer) leg of the other LED to digital pin 13 on the Arduino.
- Connect the negative (shorter) leg of the second LED to GND on the Arduino,



4. Upload the Arduino code:

- Open the Arduino IDE on your computer.
- . Create a new sketch and copy the provided code into it.
- IDE. Connect your Arduino board to your computer using a USB cable.
- Select the appropriate board and port in the Arduino
- Click on the "Upload" button to upload the code to the Arduino

5. Test the setup

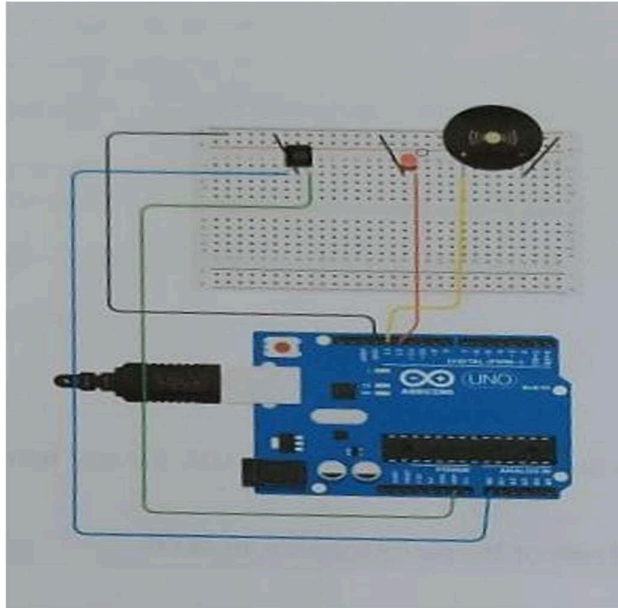
- Open the serial monitor in the Arduino IDE (or any terminal software)
- Set the baud rate of the serial monitor to 9600.
- Make sure the IR sensor is facing an obstacle (e.g., your hand) within its range
- Observe the readings in the serial monitor. You should see values printed.
- If the sensor value is above 100, both LEDs should be off.
- If the sensor value is below or equal to 100, both LEDs should be on.

6. Observe the LED behavior:

- Move an obstacle closer to the IR sensor within its detection range.
- Notice how the LEDs respond to changes in the sensor reading.

- When an obstacle is detected (sensor reading below or equal to 100), the LEDs should turn on
- When no obstacle is detected (sensor reading above 100), the LEDs should turn off.

The output will be :



CIRCUIT DIAGRAM:-

