

Program no 4

Program Title Motion Detection Sensor

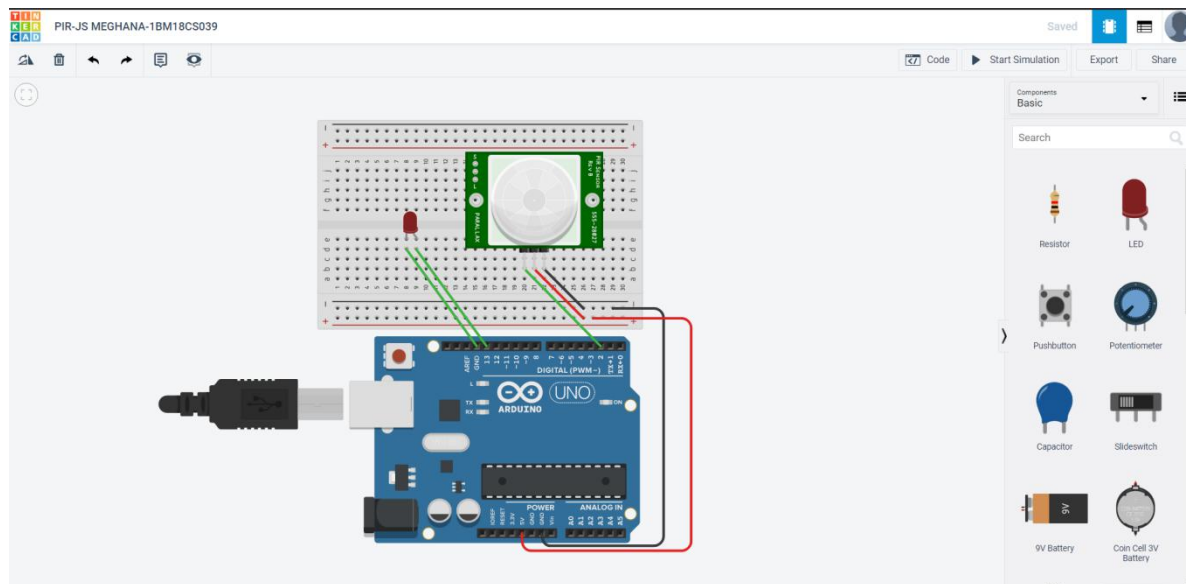
Aim

Demonstrate to show the working of PIR sensor

Hardware Required

1. Arduino Uno Board
2. PIR Sensor
3. Led

Circuit Diagram



Code:

```
int LED = 13;
int PIR = 2;

void setup()
{
  pinMode(LED, OUTPUT);
```

```

pinMode(PIR, INPUT);
Serial.begin(9600);
}

void loop()
{
if (digitalRead(PIR) == HIGH)
{
digitalWrite(LED, HIGH);
Serial.println("Motion detected!");
delay(1000);
}
else
{
digitalWrite(LED, LOW);
Serial.println("Motion stopped!");
delay(100);
}
}

```

Observation /Output

Output-1

The screenshot shows the Tinkercad simulation interface. At the top, the title bar reads "TINKERCAD PIR-JS MEGHANA-1BM18CS039". The main workspace displays an Arduino Uno R3 board connected to a PIR sensor module. The PIR sensor's detection cone is shown as a pink fan shape, and a blue dot indicates a detected motion. To the right of the workspace, a "PIR Sensor" properties panel lists the following values:

Name	Target X	Target Y	Target Z
1	-29.19	-228.79	-191.01
		-213.70	

Below the workspace, the "Code" tab is selected, showing the following C++ code:

```

1 int LED = 13;
2 int PIR = 2;
3
4 void setup() {
5   pinMode(LED, OUTPUT);
6   pinMode(PIR, INPUT);
7   Serial.begin(9600);
8 }
9
10 void loop(){
11   if (digitalRead(PIR) == HIGH) {
12     digitalWrite(LED, HIGH);
13     Serial.println("Motion detected!");
14     delay(1000);
15   }
16   else {
17     digitalWrite(LED, LOW);
18     Serial.println("Motion stopped!");
19     delay(100);
20   }
21 }

```

At the bottom, the "Serial Monitor" tab is open, displaying the output of the program:

```

Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!

```

The "Send" and "Clear" buttons are visible at the bottom right of the serial monitor.

Output-2

TI
K
E
Y
C
A
D

PIR-JS MEGHANA-1BM18CS039

All changes saved

Simulator time: 00:00:10

Code

Stop Simulation

Export

Share

PIR Sensor

Name	1
Target X	-29.19
Target Y	-228.79
Target Y	-191.01
Target Y	-213.70

Text

```
1 int LED = 13;
2 int FIR = 2;
3
4 void setup() {
5   pinMode(LED, OUTPUT);
6   pinMode(FIR, INPUT);
7   Serial.begin(9600);
8 }
9
10 void loop() {
11   if (digitalRead(FIR) == HIGH) {
12     digitalWrite(LED, HIGH);
13     Serial.println("Motion detected!");
14     delay(1000);
15   }
16   else {
17     digitalWrite(LED, LOW);
18     Serial.println("Motion stopped!");
19     delay(100);
20   }
21 }
```

Serial Monitor

Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion stopped!
Motion detected!
Motion detected!
Motion detected!

Send Clear