

## Assignment No. 02

Source Code –

```
// Define pin numbers
```

```
const int pirPin = 2; // PIR sensor input pin
```

```
const int ledPin = 13; // LED output pin (built-in on many Arduino boards)
void setup() {
    pinMode(pirPin, INPUT); // Set PIR pin as input
    pinMode(ledPin, OUTPUT); // Set LED as output
```

```
    Serial.begin(9600); // Initialize serial communication for debugging
```

```
}
```

```
void loop() {
```

```
    int pirState = digitalRead(pirPin); // Read PIR sensor state
```

```
    if (pirState == HIGH) { // If motion is detected
        digitalWrite(ledPin, HIGH);
        // Turn on LED
        Serial.println("Motion detected!");
    }
```

```
    else {
```

```
        digitalWrite(ledPin, LOW); // Turn off LED
        Serial.println("No motion");
    }
```

```
    Delay(1000); // Wait for a second before rechecking
```

```
}
```

