

Program no 03

Program Title: POTENTIOMETER-LED

Aim

To demonstrate brightness of LED according to Potentiometer resistance

Hardware Required

- Arduino Board
- Led Light
- 1 ohm resistor
- 1 Potentiometer

Circuit Diagram -

Potentiometer

Saved

Code Start Simulation Export Share

Text 1 (Arduino Uno R3)

```
1 //potentiometer
2 void setup()
3 { Serial.begin(9600);
4   pinMode(9, OUTPUT);
5 }
6
7 void loop()
8 {
9   int analog=analogRead(A0);
10  int brightness=map(analog,0,1023,0,255);
11  analogWrite(9,brightness);
12  Serial.print("\n analog value");
13  Serial.print(analog);
14  Serial.print("\n brightness value");
15  Serial.print(brightness);
16 }
```

Serial Monitor

Simulator time: 00:00:03

Potentiometer

Saved

Code Stop Simulation Export Share

Text 1 (Arduino Uno R3)

```
1 //potentiometer
2 void setup()
3 { Serial.begin(9600);
4   pinMode(9, OUTPUT);
5 }
6
7 void loop()
8 {
9   int analog=analogRead(A0);
10  int brightness=map(analog,0,1023,0,255);
11  analogWrite(9,brightness);
12  Serial.print("\n analog value");
13  Serial.print(analog);
14  Serial.print("\n brightness value");
15  Serial.print(brightness);
16 }
```

Serial Monitor

Simulator time: 00:00:03

Potentiometer

Saved

Code Stop Simulation Export Share

Text 1 (Arduino Uno R3)

```
1 //potentiometer
2 void setup()
3 { Serial.begin(9600);
4   pinMode(9, OUTPUT);
5 }
6
7 void loop()
8 {
9   int analog=analogRead(A0);
10  int brightness=map(analog,0,1023,0,255);
11  analogWrite(9,brightness);
12  Serial.print("\n analog value");
13  Serial.print(analog);
14  Serial.print("\n brightness value");
15  Serial.print(brightness);
16 }
```

Serial Monitor

Simulator time: 00:00:07

4) Potentiometer - LED

```
// potentiometer
void setup()
{
  Serial.begin(9600);
  pinMode(9, OUTPUT);
}

void loop()
{
  int analog = analogRead(A0);
  int brightness = map(analog, 0,
    1023, 0, 255);
  analogWrite(9, brightness);
  Serial.print("\n analog value");
  Serial.print(analog);
  Serial.print("\n brightness value");
  Serial.print(brightness);
}
```

Observation /Output:

The brightness of the LED bulb increased/decreased upon turning the potentiometer knob..

