ASSIGNMENT

CODE:

```
#define trigPin 5
#define echoPin 6
long duration;
int distance;
const int analogInPin = A0;
const int LEDpin = 10;
int sensorValue = 0;
int outputValue = 0;

void setup() {
  Serial.begin(9600);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
}

void loop() {
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  duration = pulseIn(echoPin, HIGH);
  distance = duration * 0.034 / 2;
  sensorValue = analogRead(analogInPin);
  outputValue = map(sensorValue, 0, 1023, 0, 255);
  analogWrite(LEDpin, outputValue);
  //distance=15;
  Serial.print("Distance: ");
  Serial.print(distance);
  Serial.println(" cm");
  if(distance <= 10){
    analogWrite(LEDpin, 1023);
```

```
    Serial.println("Full Brightness");
  }
  else if(distance>10 && distance<=30){
    analogWrite(LEDpin,255);
    Serial.println("Partial Brightness");
  }
  else {
    analogWrite(LEDpin,64);
    Serial.println("Low Brightness");
}
delay(1000);
}
```

SIMULATION: