

/*

Experiment No. : 10

Statement : Blink an LED in accordance with the brightness.
Blinking frequency increases with increase in brightness.

Date of Exp. : xx/xx/xxxx

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*/

Code:

```
const int ledPin = 2;           // Pin number for the LED
```

```
const int ldrPin = A0;         // Pin number for the ldr
```

```
void setup() {
```

```
  pinMode(ledPin, OUTPUT);
```

```
  Serial.begin(9600);
```

```
}
```

```
void loop() {
```

```
  int lightLevel = analogRead(ldrPin);
```

```
  // Map the light level to a blinking frequency
```

```
  int blinkInterval = map(lightLevel, 0, 1023, 100, 1000);
```

```
  digitalWrite(ledPin, HIGH);      // Turn on the LED
```

```
  delay(blinkInterval);
```

```

digitalWrite(ledPin, LOW);          // Turn off the LED

delay(blinkInterval);               // Print the light level and
blinking frequency to the serial monitor

Serial.print("Light Level: ");

Serial.print(lightLevel);

Serial.print("\tBlinking Frequency: ");

Serial.print(1000 / blinkInterval); // Frequency in Hz

Serial.println(" Hz");

}

```

```

Output Serial Monitor x
Message (Enter to send message to 'Arduino Uno' on 'COM4')
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 18 Blinking Frequency: 8 Hz
Light Level: 964 Blinking Frequency: 1 Hz
Light Level: 738 Blinking Frequency: 1 Hz
Light Level: 16 Blinking Frequency: 8 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 1014 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 721 Blinking Frequency: 1 Hz
Light Level: 1013 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 1023 Blinking Frequency: 1 Hz
Light Level: 783 Blinking Frequency: 1 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz
Light Level: 0 Blinking Frequency: 10 Hz

```

