

/*

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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*/

// Define the pin for the LDR
const int ldrPin = A0;

// Define pins for the LEDs
const int ledPins[] = {2, 3, 4, 5, 6};

const int numLeds = 5;

```
void setup() {  
    // Set up LED pins as outputs  
    for (int i = 0; i < numLeds; i++) {  
        pinMode(ledPins[i], OUTPUT);  
    }  
}
```

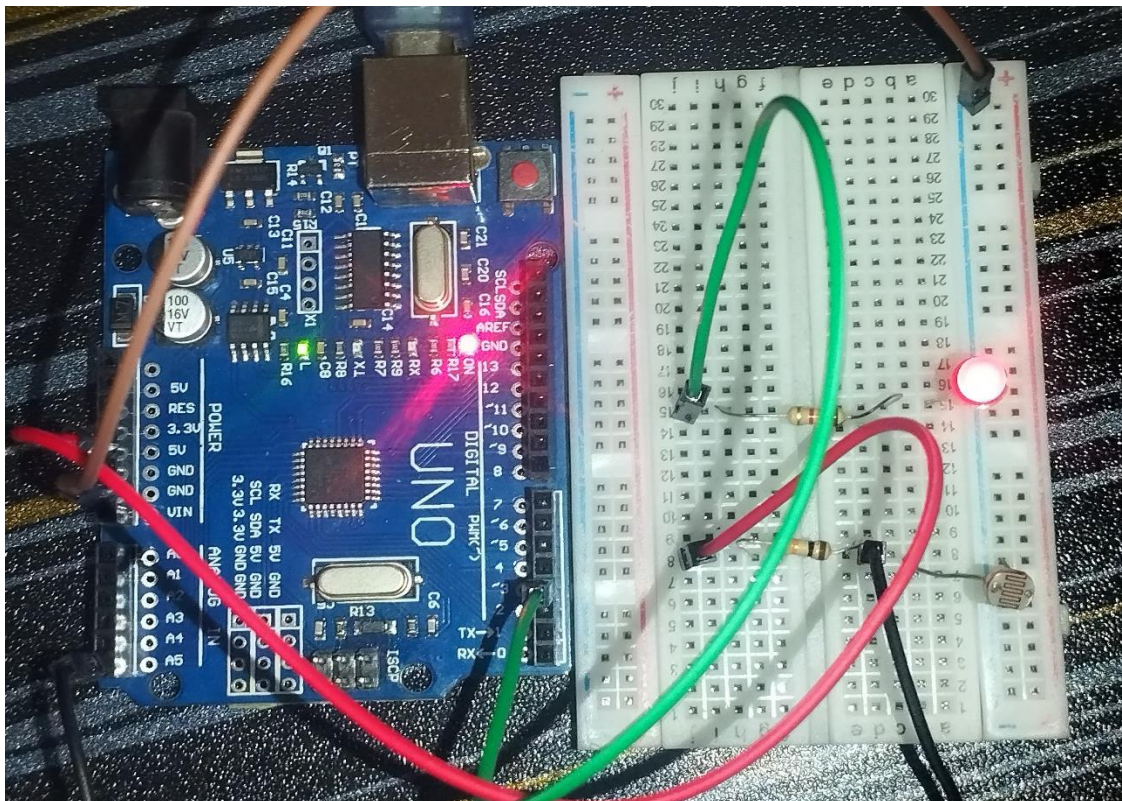
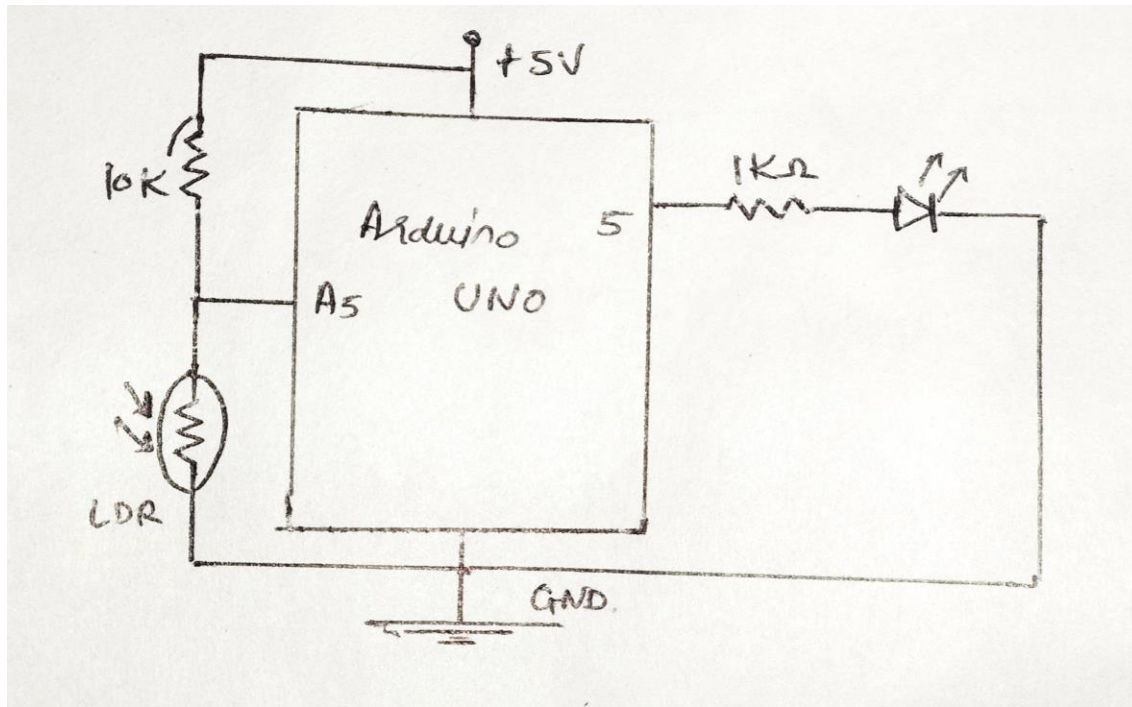
```
void loop() {  
  
    // Read the analog value from the LDR  
    int lightIntensity = analogRead(ldrPin);  
  
    // Map the analog value to the number of LEDs to light up  
    int numLedsToLight = map(lightIntensity, 0, 1023, 0, numLeds);
```

```
// Turn on the appropriate number of LEDs based on light
intensity

for (int i = 0; i < numLeds; i++) {
    if (i < numLedsToLight) {
        digitalWrite(ledPins[i], HIGH); // Turn on LED

    } else {
        digitalWrite(ledPins[i], LOW); // Turn off LED
    }
}

delay(100); // Delay for stability
}
```



```
Output  Serial Monitor  X
Message (Enter to send message to 'Arduino Uno' on 'COM11')

19:08:38.211 -> Light Level: 567      Blinking Frequency: 1 Hz
19:08:39.454 -> Light Level: 583      Blinking Frequency: 1 Hz
19:08:40.665 -> Light Level: 558      Blinking Frequency: 1 Hz
19:08:41.782 -> Light Level: 571      Blinking Frequency: 1 Hz
19:08:43.006 -> Light Level: 560      Blinking Frequency: 1 Hz
19:08:44.230 -> Light Level: 592      Blinking Frequency: 1 Hz
19:08:45.466 -> Light Level: 582      Blinking Frequency: 1 Hz
19:08:46.646 -> Light Level: 563      Blinking Frequency: 1 Hz
19:08:47.857 -> Light Level: 575      Blinking Frequency: 1 Hz
19:08:49.095 -> Light Level: 582      Blinking Frequency: 1 Hz
19:08:50.303 -> Light Level: 550      Blinking Frequency: 1 Hz
19:08:51.462 -> Light Level: 562      Blinking Frequency: 1 Hz
19:08:52.608 -> Light Level: 566      Blinking Frequency: 1 Hz
19:08:53.854 -> Light Level: 569      Blinking Frequency: 1 Hz
19:08:55.079 -> Light Level: 582      Blinking Frequency: 1 Hz
19:08:56.258 -> Light Level: 558      Blinking Frequency: 1 Hz
19:08:57.406 -> Light Level: 552      Blinking Frequency: 1 Hz
19:08:58.570 -> Light Level: 559      Blinking Frequency: 1 Hz
19:08:59.782 -> Light Level: 577      Blinking Frequency: 1 Hz
19:09:00.977 -> Light Level: 551      Blinking Frequency: 1 Hz
19:09:02.142 -> Light Level: 550      Blinking Frequency: 1 Hz
```

// Normal Condition

```
Output  Serial Monitor  X
Message (Enter to send message to 'Arduino Uno' on 'COM11')

19:09:41.420 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:41.640 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:41.834 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:42.071 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:42.313 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:42.519 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:42.743 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:42.982 -> Light Level: 14 Blinking Frequency: 8 Hz
19:09:43.205 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:43.396 -> Light Level: 14 Blinking Frequency: 8 Hz
19:09:43.652 -> Light Level: 14 Blinking Frequency: 8 Hz
19:09:43.859 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:44.082 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:44.336 -> Light Level: 22 Blinking Frequency: 8 Hz
19:09:44.577 -> Light Level: 21 Blinking Frequency: 8 Hz
19:09:44.777 -> Light Level: 16 Blinking Frequency: 8 Hz
19:09:44.991 -> Light Level: 13 Blinking Frequency: 9 Hz
19:09:45.214 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:45.457 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:45.673 -> Light Level: 12 Blinking Frequency: 9 Hz
19:09:45.892 -> Light Level: 12
```

//Brighten Condition