

FLOWING LIGHT

COMPONENTS:

1. Arduino Uno
2. Breadboard
3. 8 LEDs with 8 X 330 ohm Resistors
4. 10K Potentiometer
5. Jumper Wires

PROGRAM:

```
// Flowing LED Lights with a Potentiometer

int ledNum = 8; //the number of the LEDs attached
byte ledPin[] = { 2, 3, 4, 5, 6, 7, 8, 9}; // Create array for LED pins
int ledDelay; // delay duration
int direction = 1;
int currentLED = 0;
unsigned long changeTime;
int potPin = 0; // select the input pin for the potentiometer
void setup()
{
for (int x = 0; x < ledNum; x++)
// set all pins to output
{
pinMode(ledPin[x], OUTPUT);
}
changeTime = millis();//
}
void loop() {
ledDelay = analogRead(potPin); // read the value from the pot
if ((millis() - changeTime) > ledDelay)
{ // if it has been ledDelay ms since last change
```

```
changeLED();
changeTime = millis();
}
}
void changeLED()
{
for (int x=0; x < ledNum; x++)
{ // turn off all LED's
digitalWrite(ledPin[x], LOW);
}
digitalWrite(ledPin[currentLED], HIGH); // turn on the current LED
currentLED += direction; // increment by the direction value
// change direction if we reach the end
if (currentLED == ledNum-1)
{
direction = -1;
}
if (currentLED == 0)
{
direction = 1;
}
}
```