```
/*
Experiment No. :  06
Statement      :  Design a 4-Bit counter
Date of Exp.   :  xx/xx/xxxx
Author         :  Reva Dhiran (A-10)
*/
```

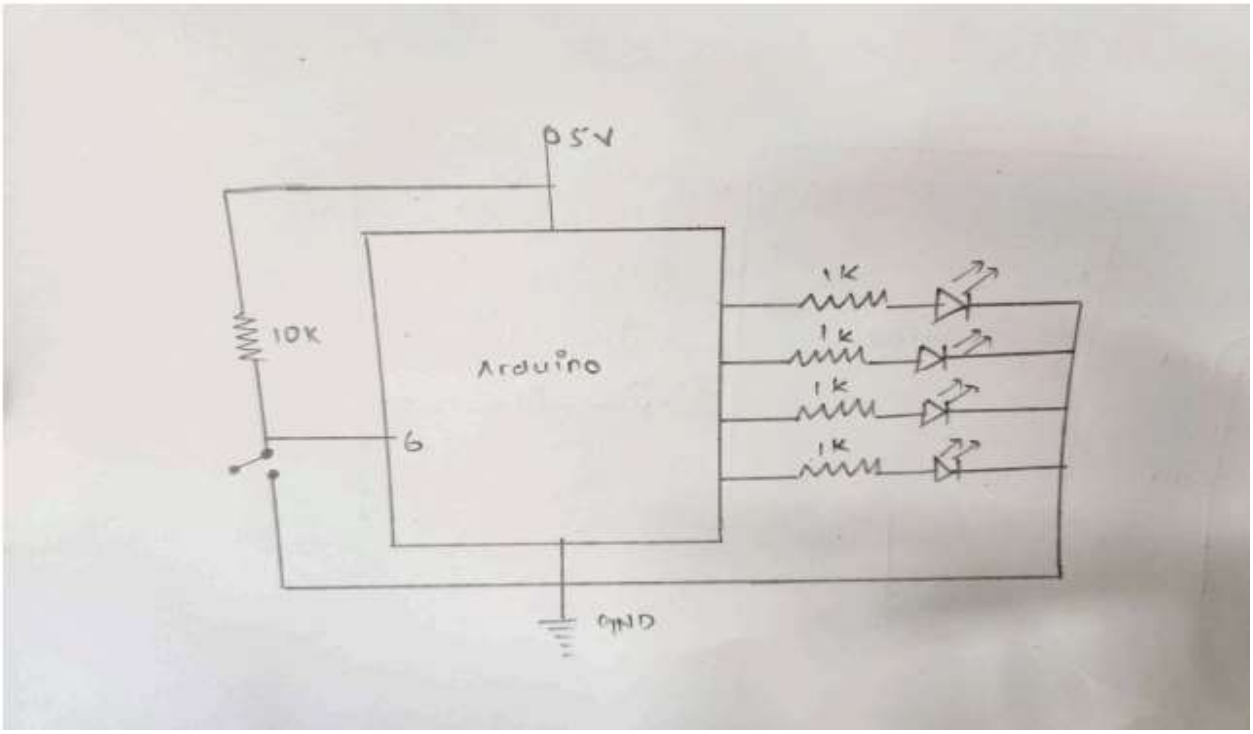
Code:

```
const int ledPins[] = {2, 3, 4, 5}; // Change these pins as per your setup
const int switchPin = 6; // Change this pin as per your setup
int counter = 0;
int switchState = 0;
int lastSwitchState = 0;
void setup() {
// Initialize LEDs as outputs
for (int i = 0; i < 4; i++) {
pinMode(ledPins[i], OUTPUT);
}
// Initialize switch as input
pinMode(switchPin, INPUT_PULLUP);

// Set initial state of LEDs
```

```
updateLEDs();
}
void loop() {
// Read the state of the switch

switchState = digitalRead(switchPin);
// Check if the switch state has changed
if (switchState != lastSwitchState) {
if (switchState == HIGH) {
// Increment the counter when the switch is pressed
counter = (counter + 1) % 16;
updateLEDs();
}
delay(50); // Debounce delay
}
// Save the current switch state for comparison
lastSwitchState = switchState;
}
// Function to update LEDs based on the current counter value
void updateLEDs() {
for (int i = 0; i < 4; i++) {
digitalWrite(ledPins[i], bitRead(counter, i));
}
}
```


5V
10K
Arduino
6
1K
1K
1K
1K
GND