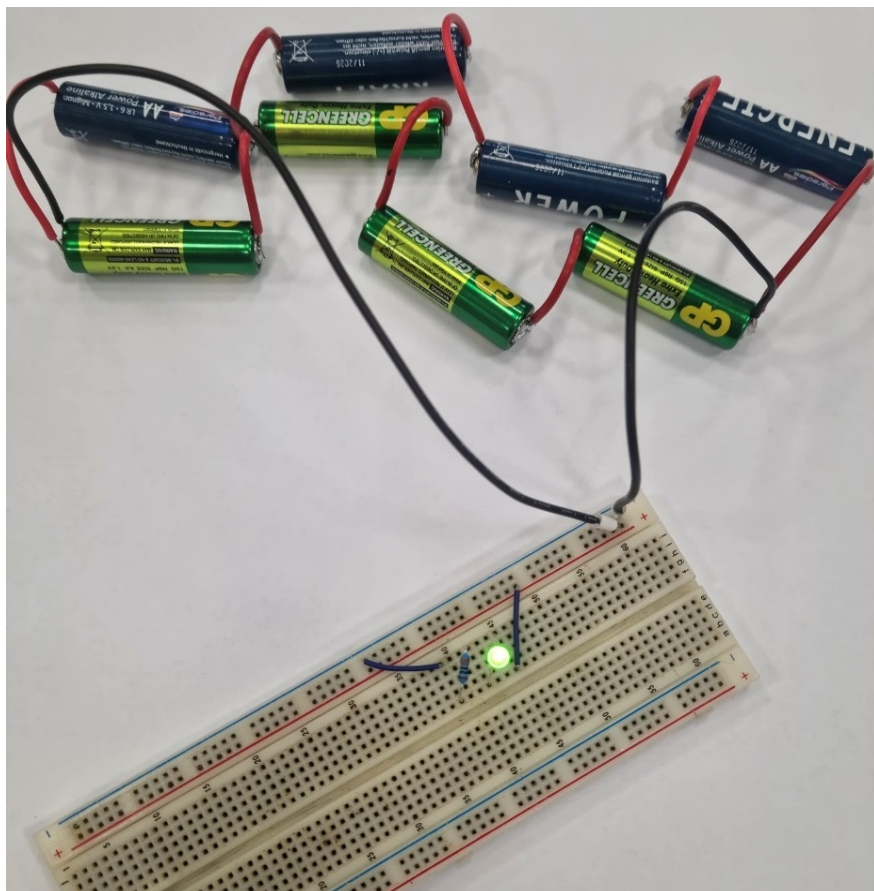


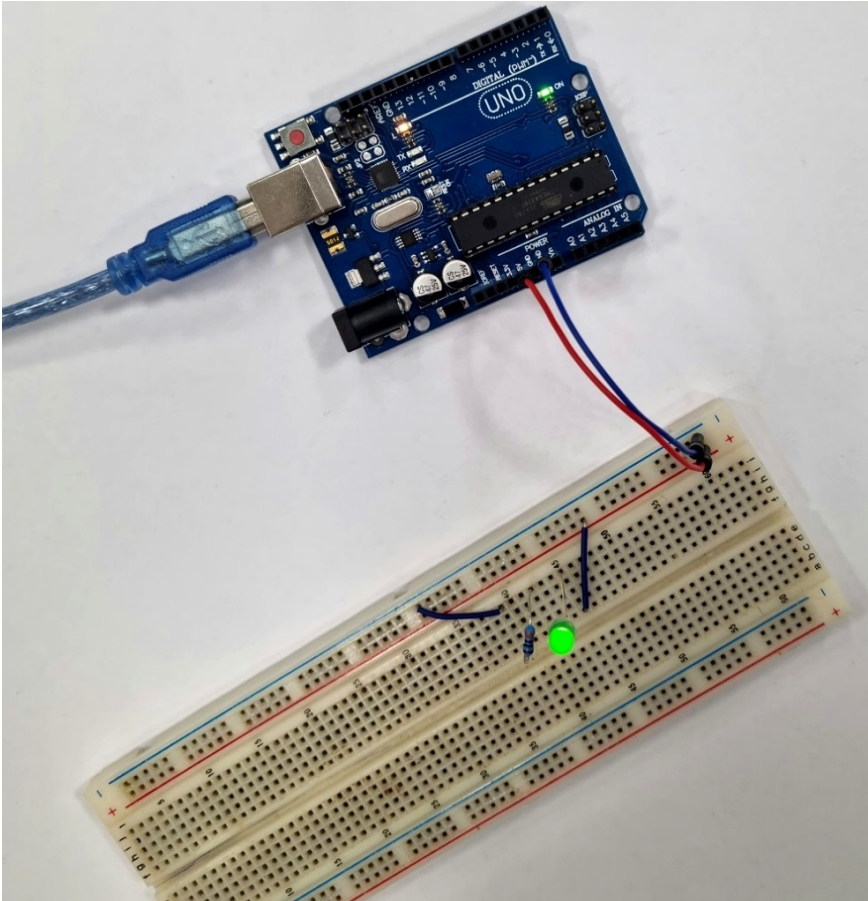
Arduino 3 - Programy a zapojenia :)

1. Jednoduchý elektrický obvod s batériami



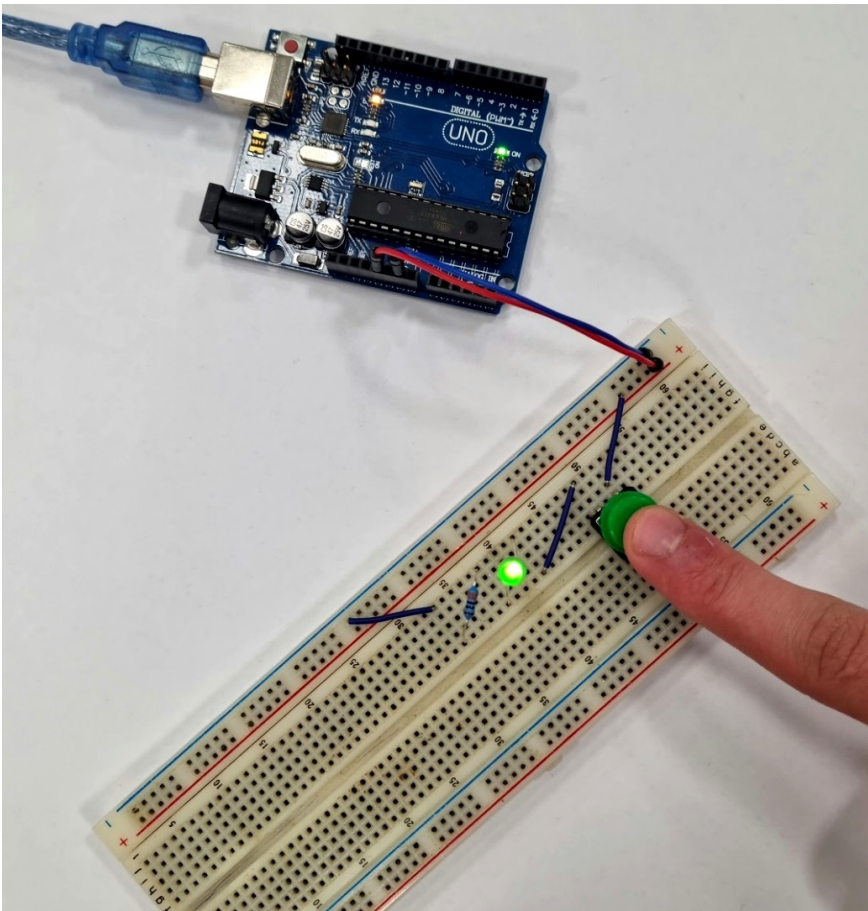
Zapojenie úlohy 1

2. Jednoduchý elektrický obvod napájaný z Arduina



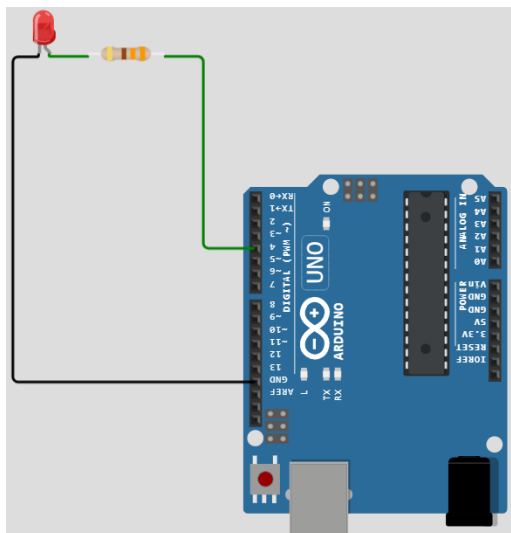
Zapojenie úlohy 2

3. Jednoduchý elektrický obvod napájaný z Arduina s tlačidlom



Zapojenie úlohy 3

4. Blikajúca LED

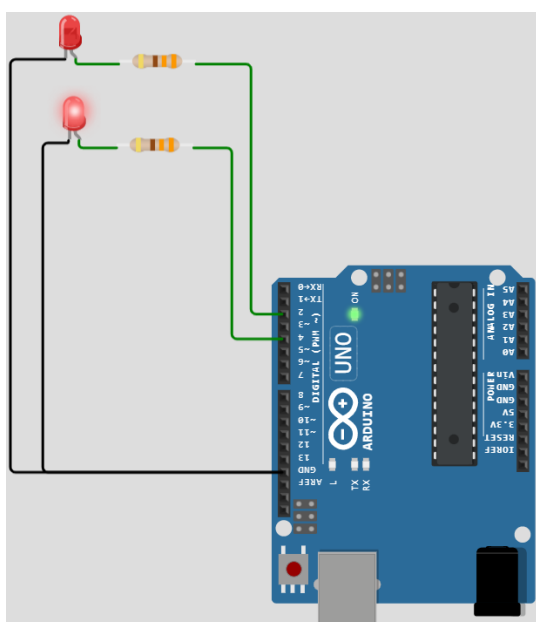


Zapojenie

```
1 void setup() {
2   // Blikajúca LED
3   pinMode(4, OUTPUT);
4 }
5
6 void loop() {
7   digitalWrite (4, LOW);
8   delay (1000);
9
10  digitalWrite (4, HIGH);
11  delay (1000);
12  }
```

Program

5. Dve blikajúce LED-ky



Zapojenie

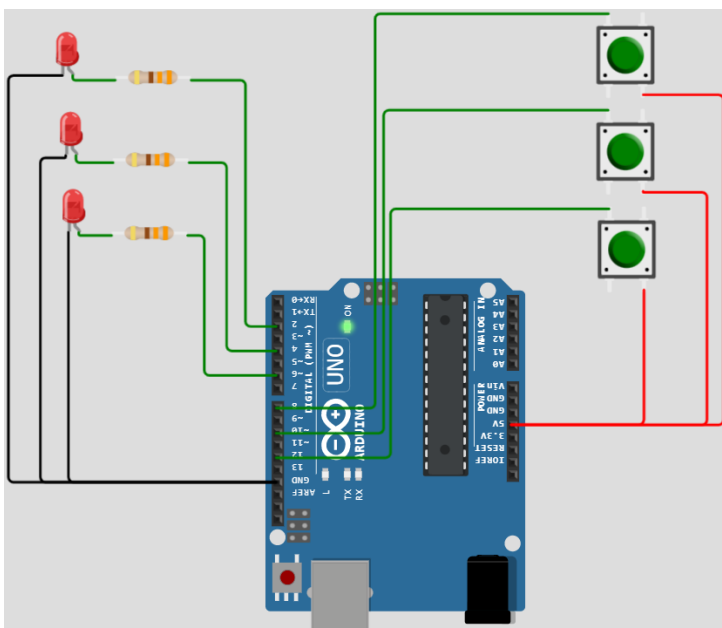
```

1 void setup() {
2   // Dve blikajúce LED
3   pinMode(2, OUTPUT);
4   pinMode(4, OUTPUT);
5 }
6
7 void loop() {
8   digitalWrite (2, HIGH);
9   digitalWrite (4, LOW);
10  delay (500);
11
12  digitalWrite(2, LOW);
13  digitalWrite(4, HIGH);
14  delay (500);
15  }

```

Program

6. Prevodník Poradie/Počet realizovaný pomocou jednoduchej podmienky



Zapojenie

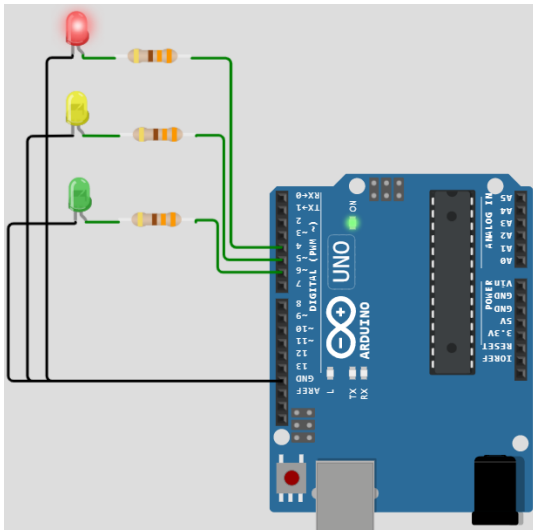

```

1 void setup() {
2   // Použitie podmienky
3   pinMode(2, OUTPUT);
4   pinMode(4, OUTPUT);
5   pinMode(7, INPUT);
6   }
7
8 void loop() {
9   if (digitalRead(7) == 1)
10  {
11    digitalWrite (2, HIGH);
12    digitalWrite (4, LOW);
13  }
14  else
15  {
16    digitalWrite (2, LOW);
17    digitalWrite (4, HIGH);
18  }
19  }

```

Program

8. Semafor



Zapojenie

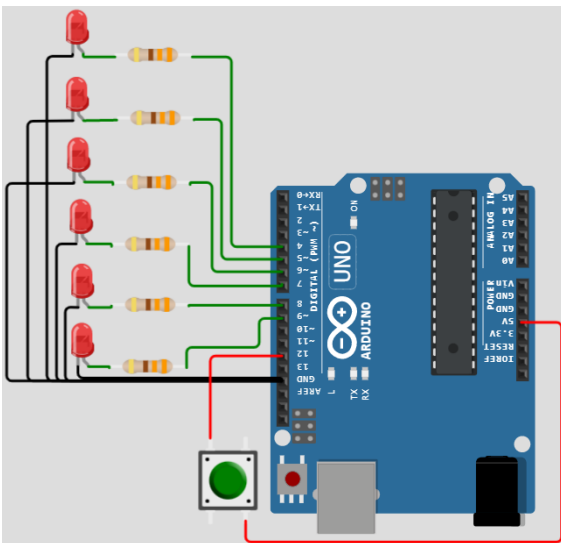
```

1 void setup() {
2   // Semafor
3   pinMode(4, OUTPUT);
4   pinMode(5, OUTPUT);
5   pinMode(6, OUTPUT);
6   }
7
8 void loop() {
9   digitalWrite (4, HIGH);
10  delay (1000);
11  digitalWrite (4, LOW);
12  delay (1000);
13  digitalWrite (5, HIGH);
14  delay (1000);
15  digitalWrite (5, LOW);
16  delay (1000);
17  digitalWrite (6, HIGH);
18  delay (1000);
19  digitalWrite (6, LOW);
20  delay (1000);
21  digitalWrite (5, HIGH);
22  delay (1000);
23  digitalWrite (5, LOW);
24  delay (1000);
25  }

```

Program

9. Bežiacie svetlo



Zapojenie

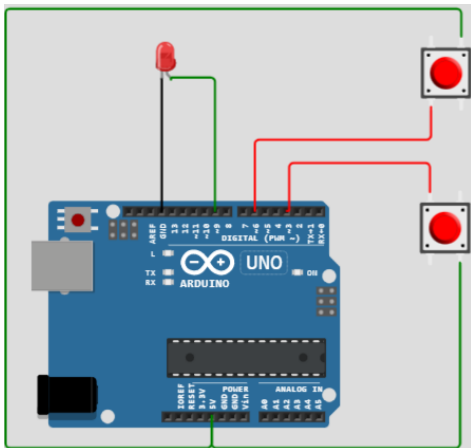
```

1 void setup() {
2   // Beziace_svetlo
3   pinMode(4, OUTPUT); pinMode(5, OUTPUT); pinMode(6, OUTPUT);
4   pinMode(7, OUTPUT); pinMode(8, OUTPUT); pinMode(9, OUTPUT);
5   pinMode(12, INPUT);
6   | | | | | }
7
8 void loop() {
9   digitalWrite (4, HIGH); delay (15);
10  if (digitalRead(12) == 1) { delay (1000);}
11  digitalWrite (4, LOW); delay (15); digitalWrite (5, HIGH); delay (15);
12  if (digitalRead(12) == 1) { delay (1000);}
13  digitalWrite (5, LOW); delay (15); digitalWrite (6, HIGH); delay (15);
14  if (digitalRead(12) == 1) { delay (1000);}
15  digitalWrite (6, LOW); delay (15); digitalWrite (7, HIGH); delay (15);
16  if (digitalRead(12) == 1) { delay (1000);}
17  digitalWrite (7, LOW); delay (15); digitalWrite (8, HIGH); delay (15);
18  if (digitalRead(12) == 1) { delay (1000);}
19  digitalWrite (8, LOW); delay (15); digitalWrite (9, HIGH); delay (15);
20  if (digitalRead(12) == 1) { delay (1000);}
21  digitalWrite (9, LOW); delay (15);
22  | | | | | }

```

Program

10. Ovládanie jasu LEDky pomocou počítača



Zapojenie

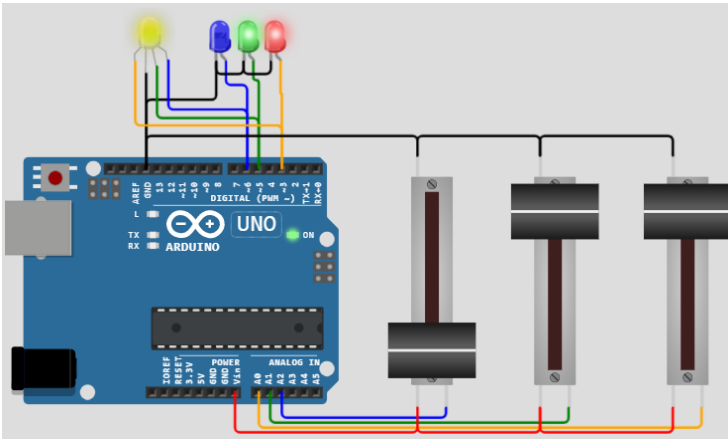
```

1 const int pinR = 9;
2 int Rhodnota = 0;
3
4 void setup() {
5   // ovládanie jas LEDky
6   pinMode(3, INPUT); pinMode(6, INPUT);
7   | | | | | }
8 void loop() {
9   if (digitalRead(3) == 1 && Rhodnota < 255) {Rhodnota += 1; analogWrite(pinR, Rhodnota); delay(10); }
10  if (digitalRead(6) == 1 && Rhodnota > 0) {Rhodnota -= 1; analogWrite(pinR, Rhodnota); delay(10); }
11  | | | | | }

```

Program

11. Zapojenie 3-farebnej LED, nastavenie farby pomocou potenciometrov

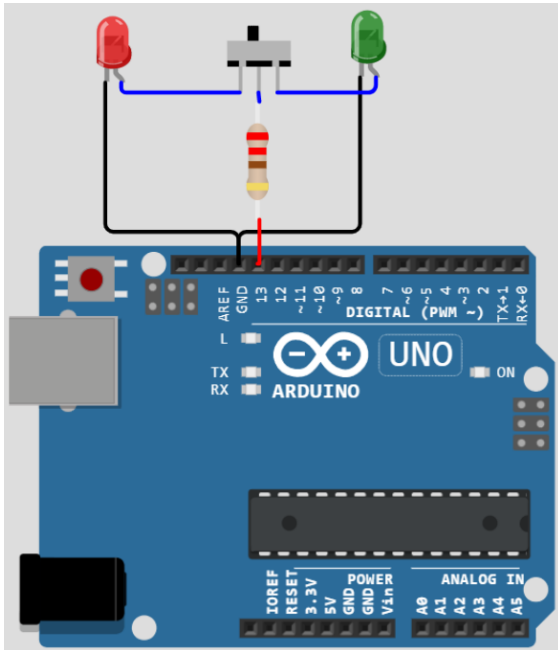


Zapojenie

```
1  const int pinR = 3;
2  const int pinG = 5;
3  const int pinB = 6;
4
5  const int potR = A0;
6  const int potG = A1;
7  const int potB = A2;
8
9  void setup() {
10     // Demo RGB LED a potenciometre
11     pinMode(pinR, OUTPUT);
12     pinMode(pinG, OUTPUT);
13     pinMode(pinB, OUTPUT);
14     pinMode(potR, INPUT);
15     pinMode(potG, INPUT);
16     pinMode(potB, INPUT);
17 }
18
19 int readPot(int pin) {
20     return map(analogRead(pin), 0, 1023, 0, 255);
21 }
22
23 void loop() {
24     analogWrite(pinR, readPot(potR));
25     analogWrite(pinG, readPot(potG));
26     analogWrite(pinB, readPot(potB));
27 }
```

Program

14. Prepínanie blikajúcich LED



Zapojenie

```

1 void setup() {
2     //Pouzitie prepinaca
3     pinMode(LED_BUILTIN, OUTPUT);
4 }
5
6 void loop() {
7     digitalWrite(LED_BUILTIN, HIGH);
8     delay(1000);
9     digitalWrite(LED_BUILTIN, LOW);
10    delay(1000);
11 }

```

Program

201. Vysúvanie a zasúvanie piestnice valca pomocou dvoch tlačidiel

Zapojenie

Program

202. Vysúvanie a zasúvanie piestnice valca pomocou jedného tlačidla

Zapojenie

Program

203. Zmena smeru otáčok elektrického motora troma tlačidlami

Zapojenie

Program

204. Zmena smeru otáčok elektrického motora piatimi tlačidlami

Zapojenie

Program