

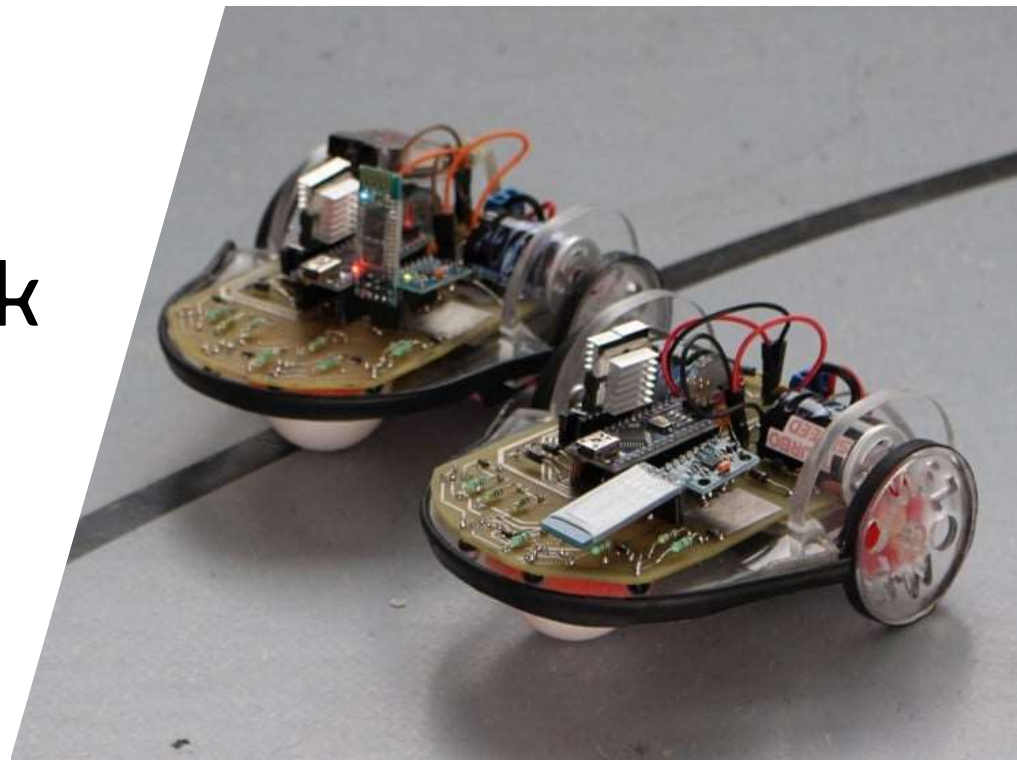


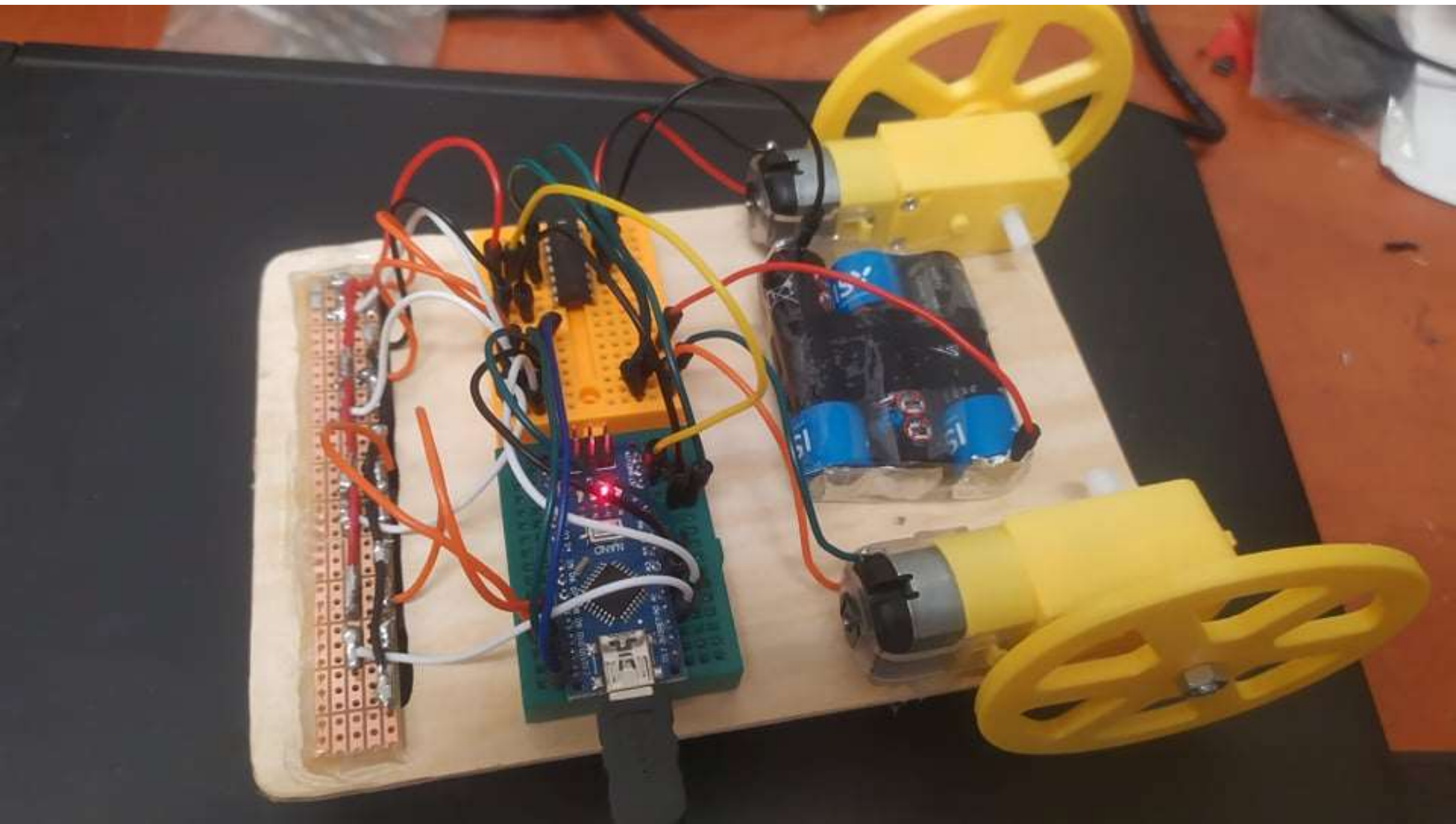
Vonalkövető autó 2.0



Mivel tud többet?

- Semmivel
- De működik
- RIP 1.0





Szenzor

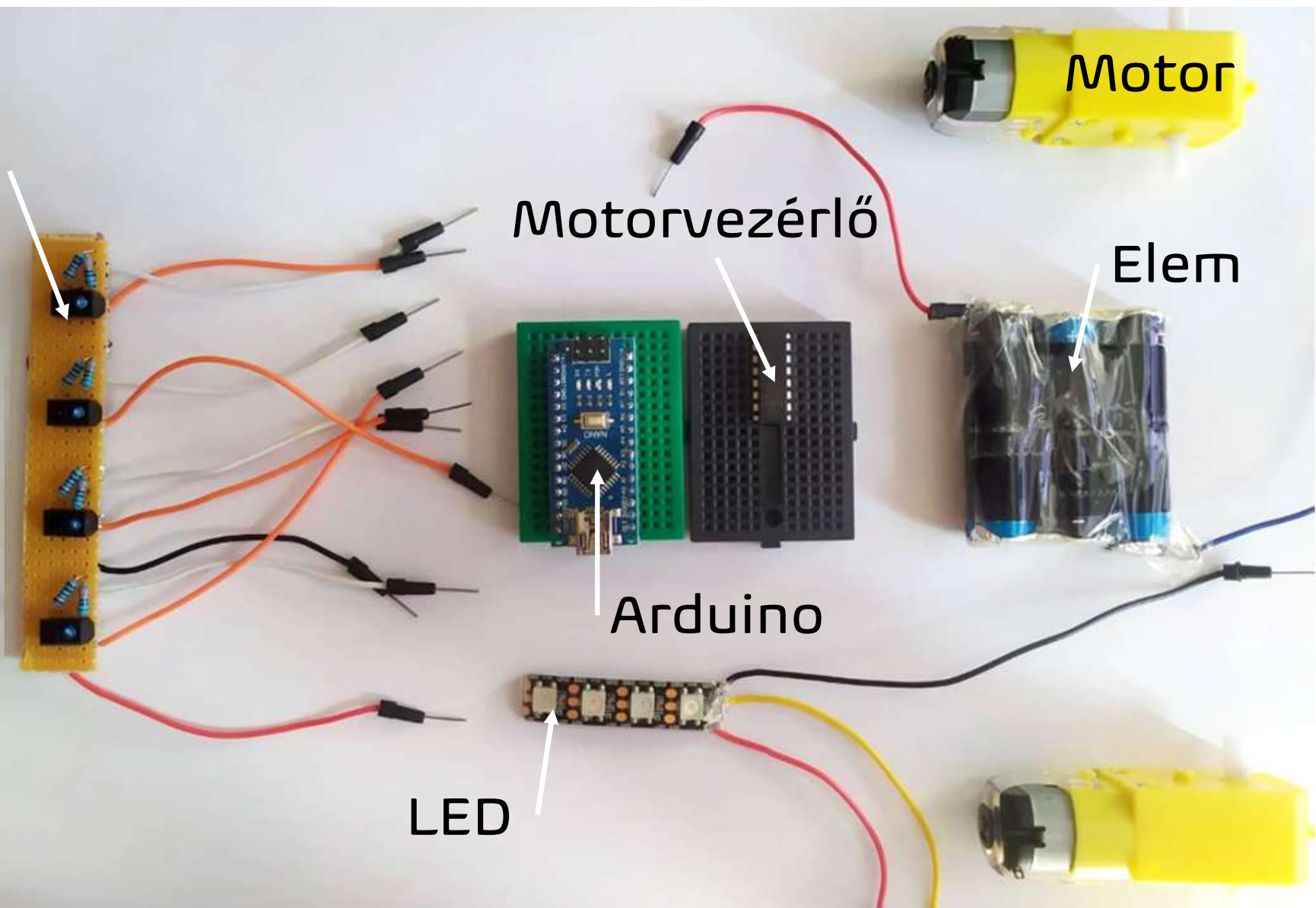
Motorvezérlő

Motor

Elem

Arduino

LED



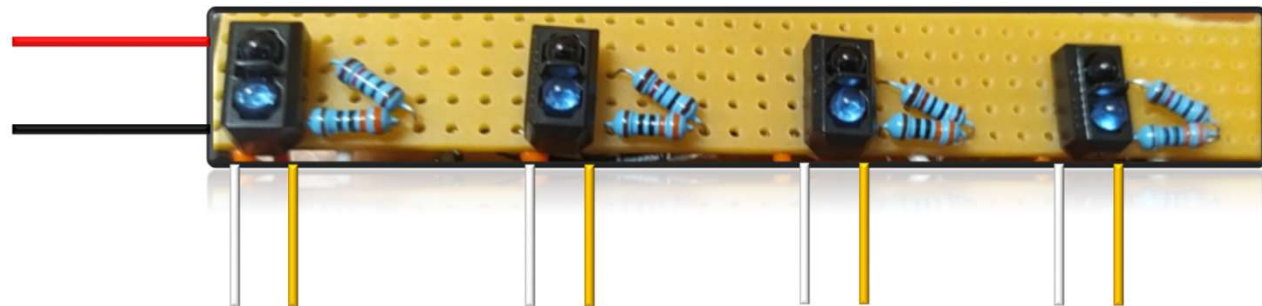
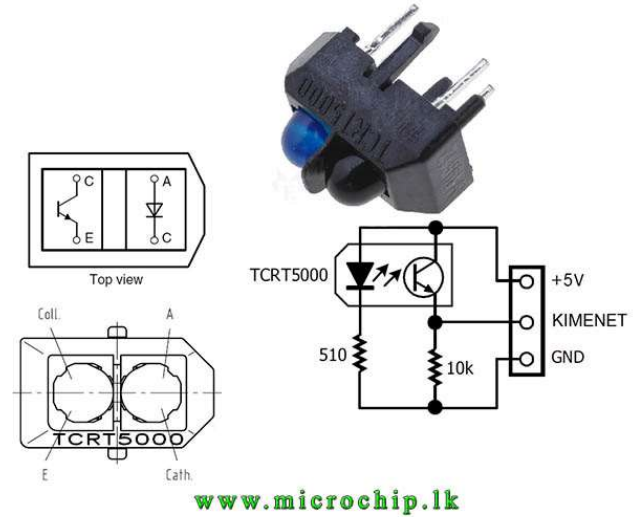
An abstract graphic design featuring a series of horizontal lines, some solid and some dashed, with various geometric shapes (circles, squares, triangles) and arrows interspersed, creating a circuit-like or data flow pattern. The lines are black on a white background. The shapes and arrows are also black. The overall composition is vertical, with elements arranged in a way that suggests movement and connectivity.



Érzékelő

- GND
 - 5 Volt
 - 4x PWM input
- 4x analóg output

TCRT5000 Reflective Optical Sensor



vonalkoveto_led_proba

```
28 if (inp < 100) text = " " + text;
29 if (inp < 1000) text = " " + text;
30 for(int i=0; i<20; i++) {
31   if(i<symNum) text+=" ";
32   else text+=" ";
33 }
34 return text;
35 }
36
37 // bemenet: analóg pin azonosítója (uint8_t)
38 // leolvas 3 értéket a pinen, és átlagolja az értékeket
39 // kimenet: átlagos feszültség a pinen, avg=0..1023 (int)
40 int anRead(uint8_t pin){
41   int inp1 = analogRead(pin); delay(1);
42   int inp2 = analogRead(pin); delay(1);
43   int inp3 = analogRead(pin);
44   int avg = (inp1 + inp2 + inp3) / 3;
45   return avg;
46 }
47
48 // setup, egyszer fut le, minden más előtt
49 void setup() {
50   Serial.begin(9600); // soros port bekapcsolása (jobb
51
52   analogWrite(infraLed1, 255); // PWM vezérlése, így v
53   analogWrite(infraLed2, 255);
54   analogWrite(infraLed3, 255);
55   analogWrite(infraLed4, 255);
56 }
57
58 // loop, folyamatosan újrafut
59 void loop() {
60   analogWrite(infraLed1, brightness); delay(20); // ár
61   int inp1 = anRead(sensor1); analogWrite(infraLed1, 25
62   analogWrite(infraLed2, brightness); delay(20); // kö
63   int inp2 = anRead(sensor2); analogWrite(infraLed2, 25
64   analogWrite(infraLed3, brightness); delay(20);
65   int inp3 = anRead(sensor3); analogWrite(infraLed3, 25
66   analogWrite(infraLed4, brightness); delay(20);
67   int inp4 = anRead(sensor4); analogWrite(infraLed4, 25
68
69   Serial.println(value2graph(inp1) + value2graph(inp2)
70   delay(160);
71 }
```

COM5

```
1012: #####1004: #####727: #####178: #####
1009: #####988: #####383: #####173: #####
1012: #####800: #####439: #####169: #####
1012: #####575: #####516: #####167: #####
995: #####623: #####581: #####165: #####
675: #####419: #####476: #####162: #####
161: #####160: #####296: #####160: #####
158: #####160: #####162: #####160: #####
159: #####161: #####161: #####880: #####
237: #####173: #####162: #####988: #####
378: #####326: #####268: #####992: #####
432: #####412: #####398: #####992: #####
196: #####232: #####348: #####994: #####
385: #####222: #####246: #####993: #####
298: #####191: #####387: #####991: #####
282: #####192: #####989: #####989: #####
445: #####350: #####1003: #####991: #####
636: #####985: #####1004: #####989: #####
804: #####1009: #####1011: #####990: #####
1014: #####1009: #####1010: #####990: #####
1006: #####1002: #####1004: #####1001: #####
981: #####964: #####994: #####996: #####
1010: #####997: #####991: #####945: #####
1013: #####1002: #####996: #####947: #####
1014: #####1002: #####995: #####958: #####
1011: #####1003: #####1000: #####977: #####
1009: #####1003: #####1000: #####979: #####
```

☒ Autoscroll ☐ Show timestamp

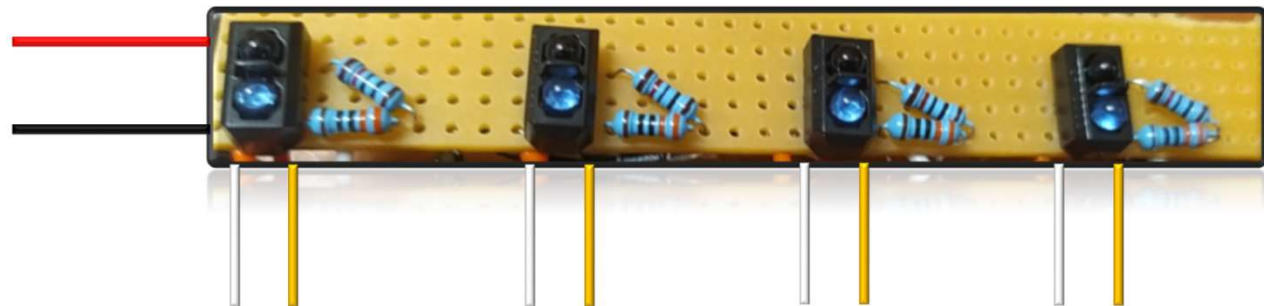
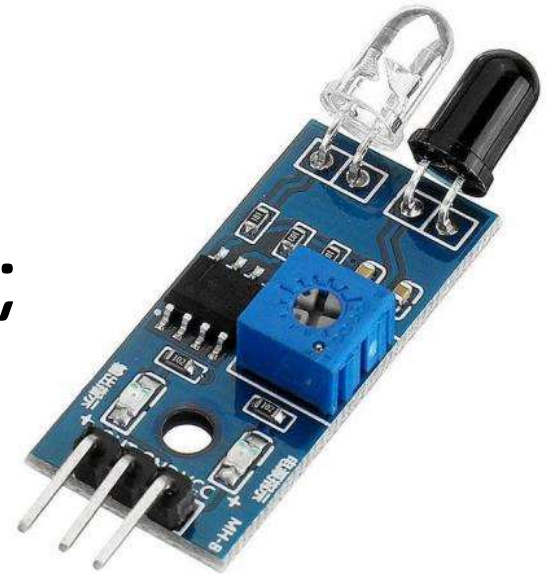
Newline ▾

9600 baud ▾

Clear output

Érzékenység állítása

- Narancs kábel
- Kikapcs:
`analogWrite(9, 255);`
- Bekapcs:
`analogWrite(9, 50);`

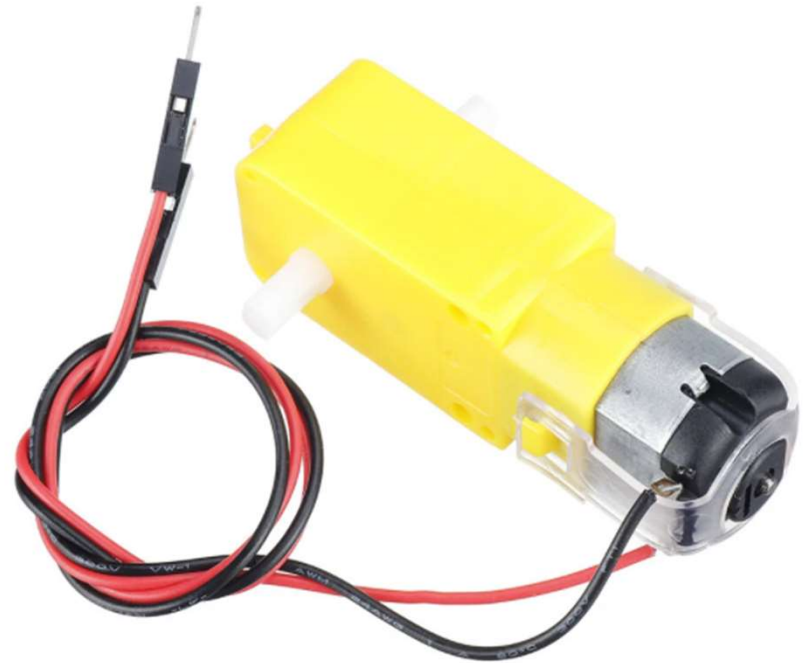


Motor

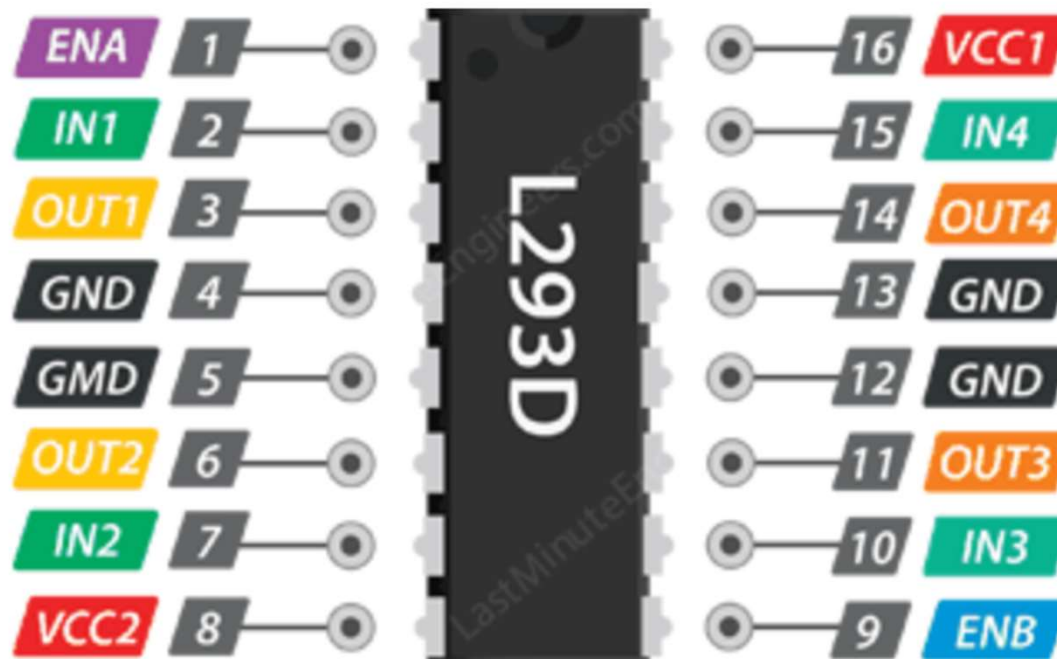
- 2 db DC motor

- 1:48-as
áttétel

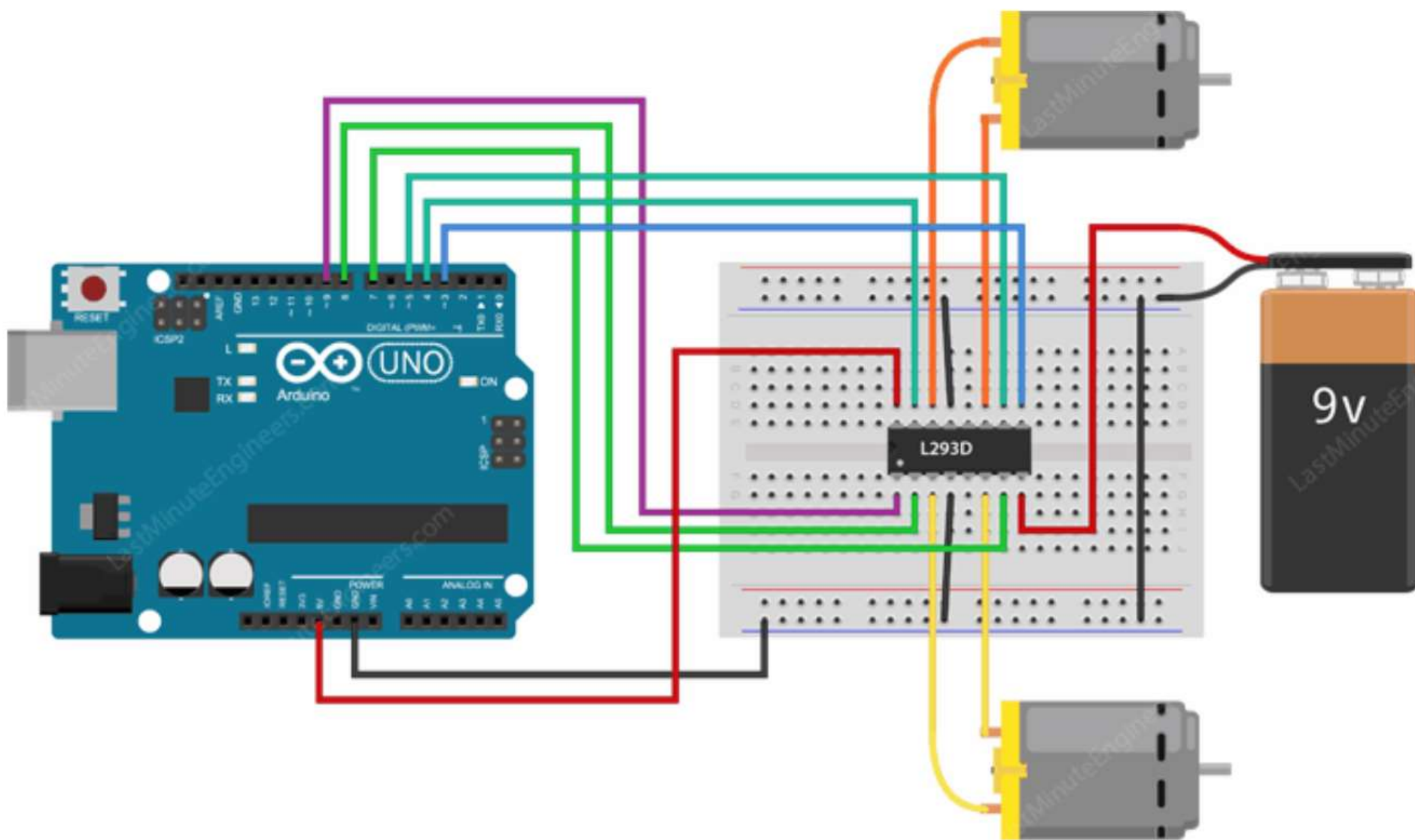
- 3-6 Volt



Motorvezérlés

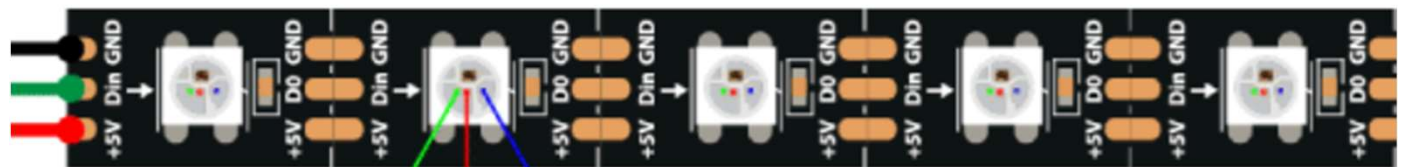


- 4 db PWM vagy digitális pin



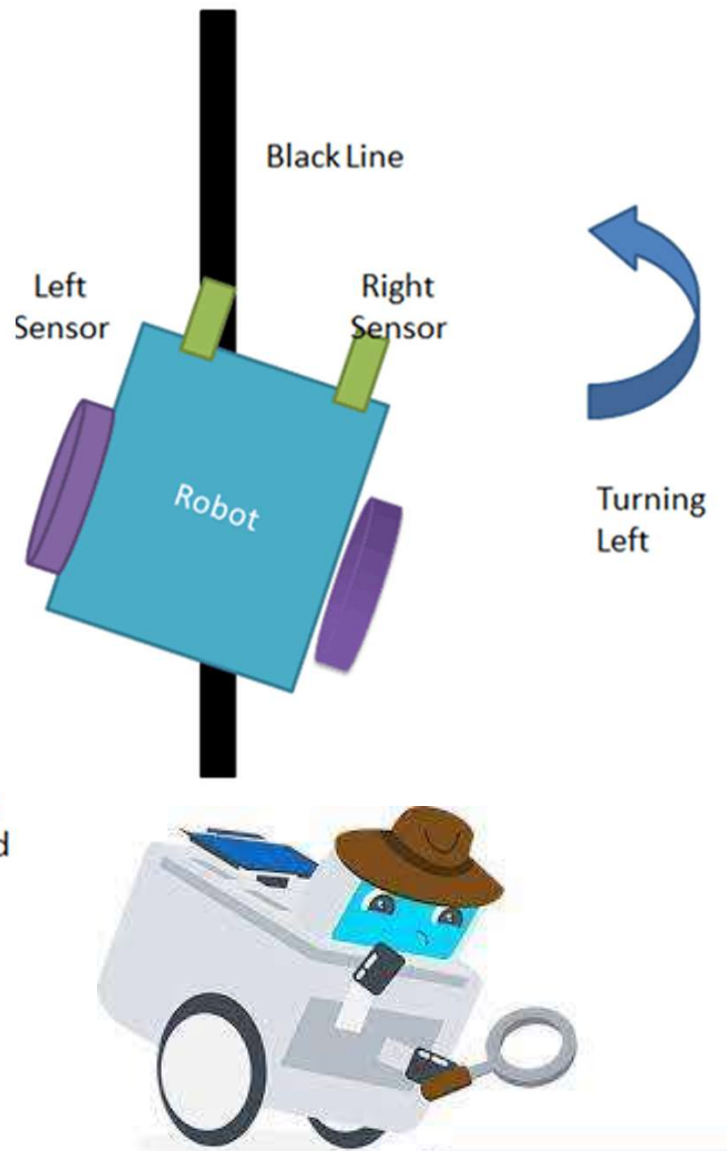
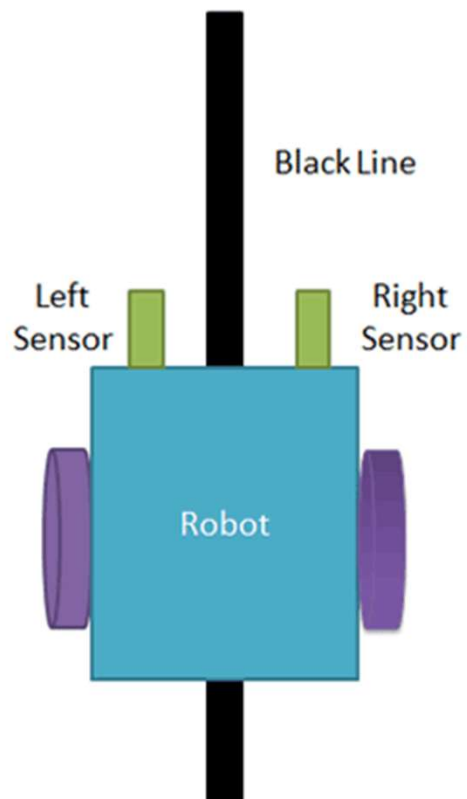
Dekor LED

- WS2812B
- Vezérlés: FastLED library
- Ha sikerül összeforrasztanom

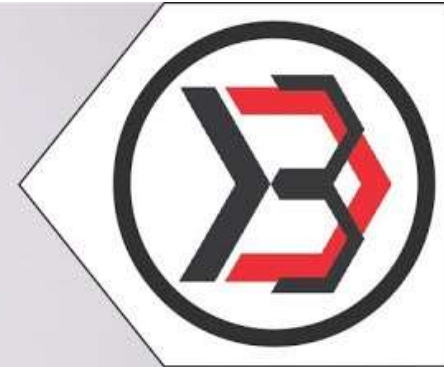
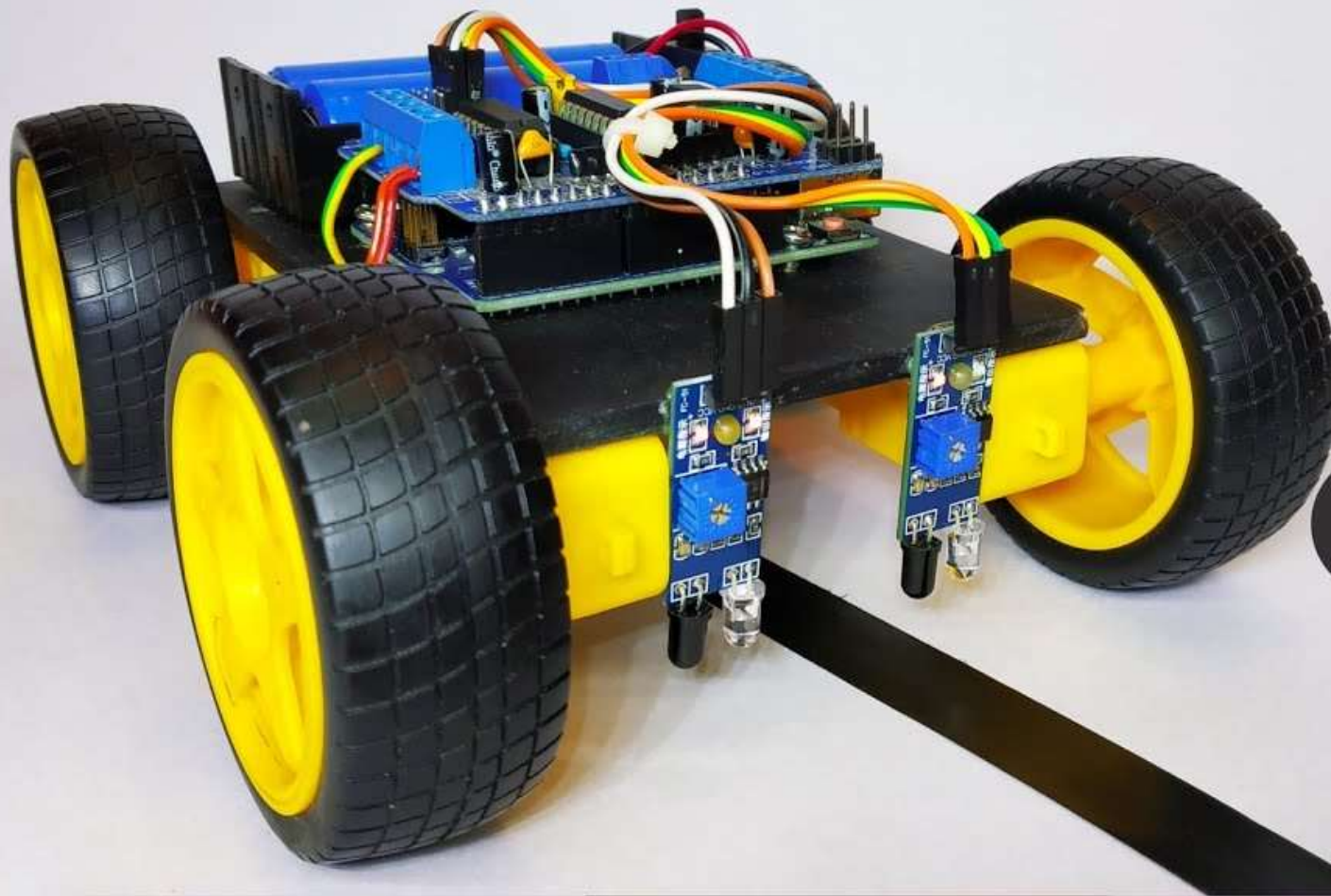


$$20\text{mA} + 20\text{mA} + 20\text{mA} = 60\text{mA}$$

Feladat



Sok sikert!



**LINE
FOLLOWER
CAR**