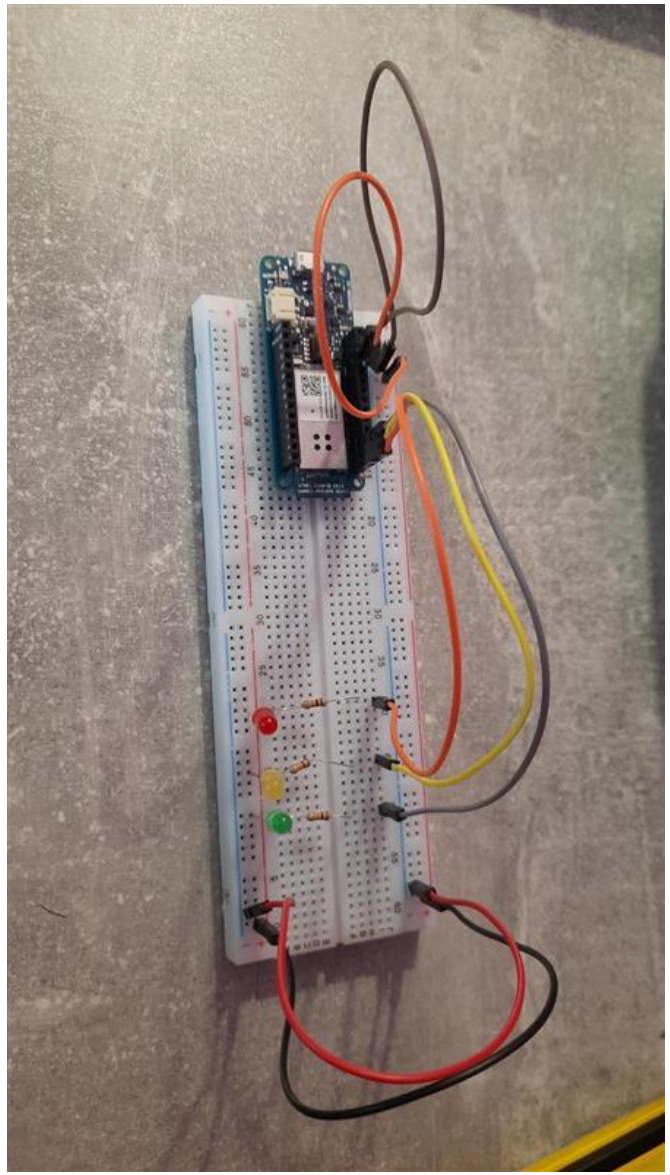
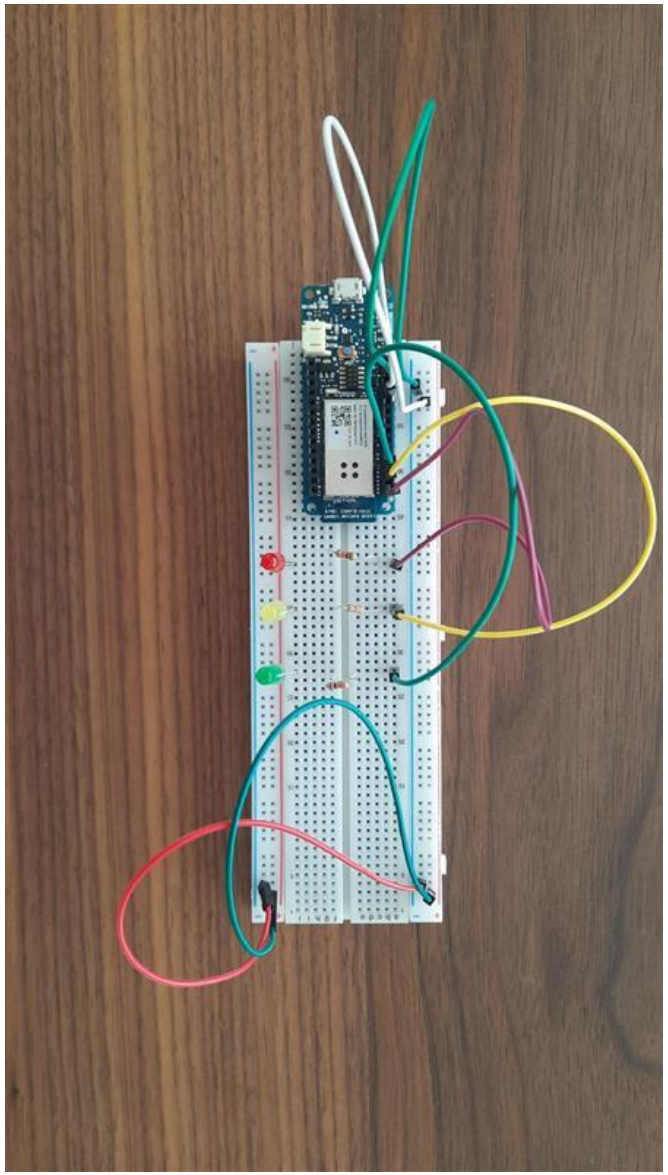
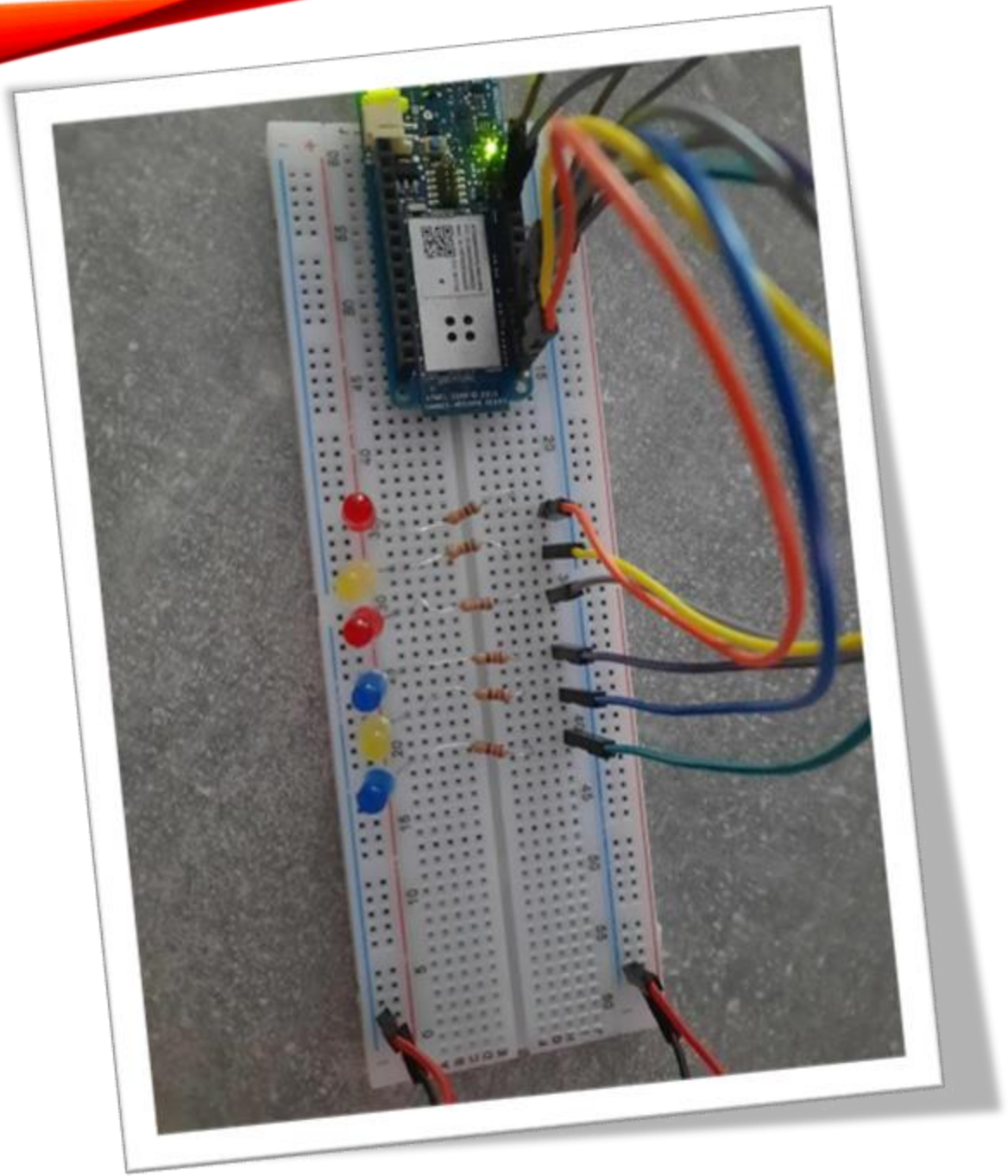
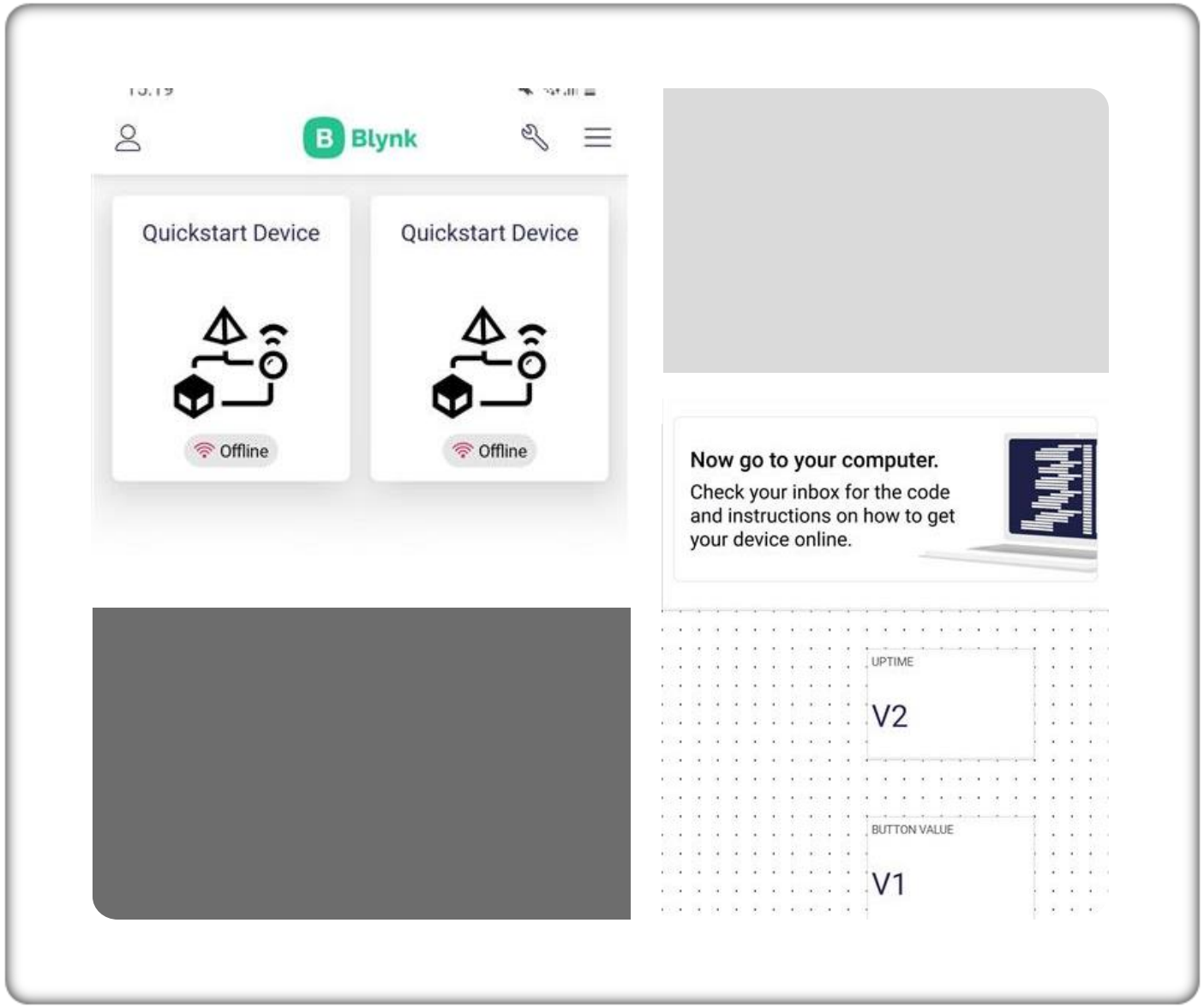
# STEM GRUPA 2021 / 2022

Željko Vučković, Ivan Pišković, Lorena Semenski, Gloria Svečnjak, Lana Pripeljaš



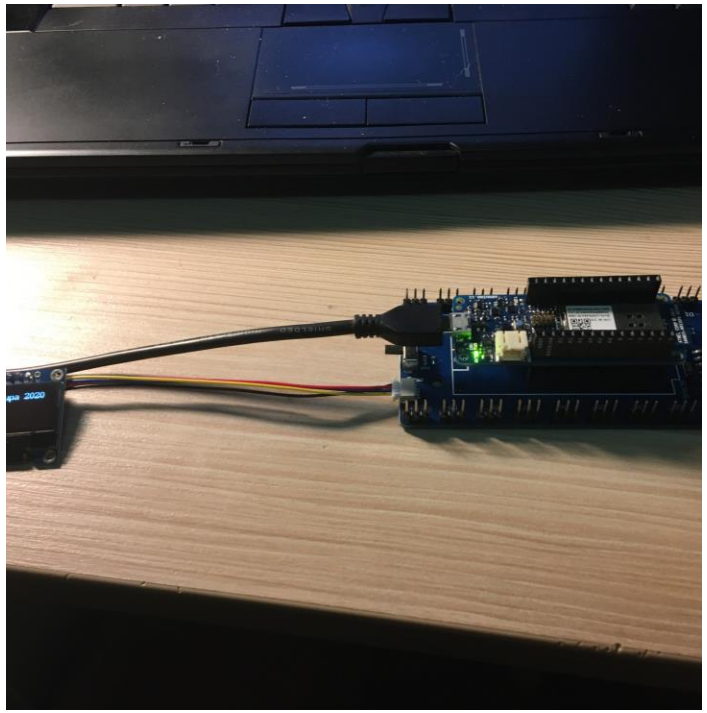


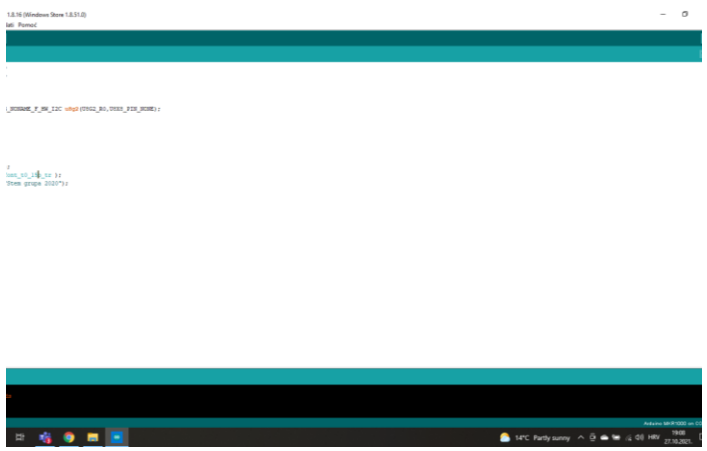


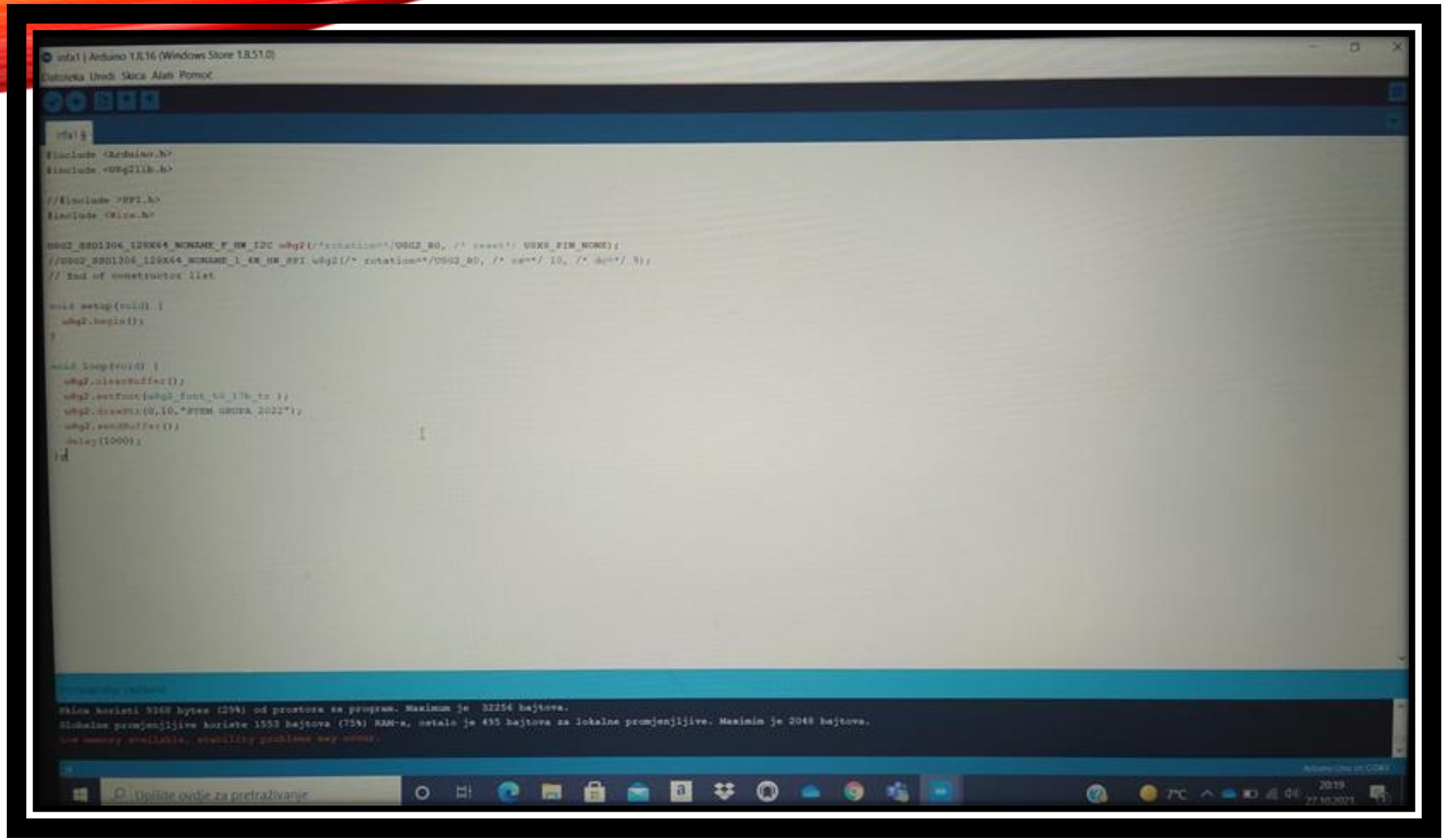

Blynk
Quickstart Device
Offline
Quickstart Device
Offline
Now go to your computer.
Check your inbox for the code and instructions on how to get your device online.
UPTIME
V2
BUTTON VALUE
V1

# BLYNK

- OLED EKRAN





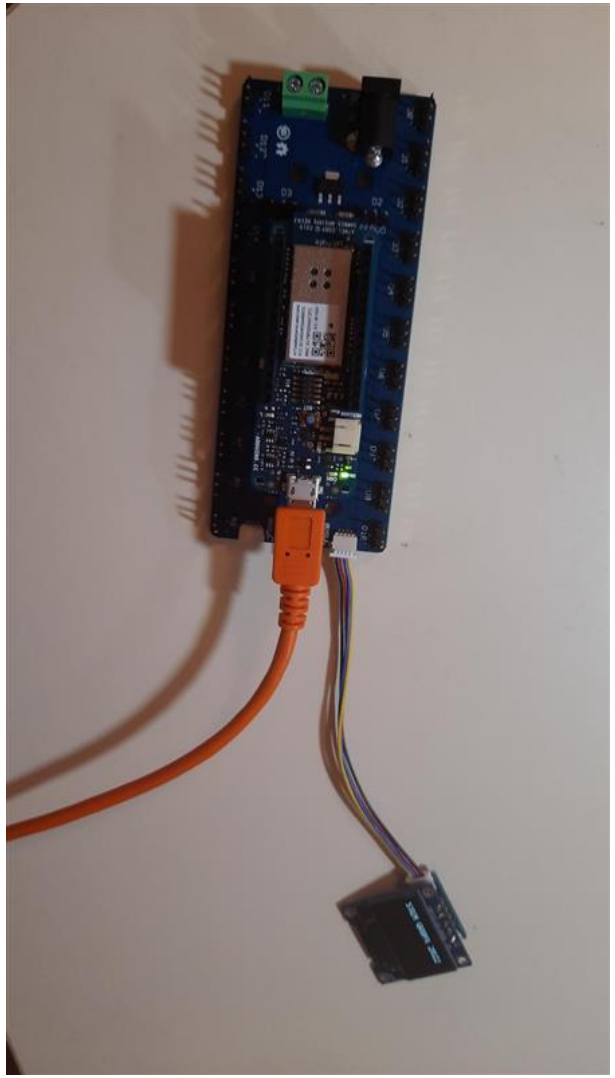

rtfa1 | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
rtfa1 §
#include <Arduino.h>
#include <U8g2lib.h>
//#include <SPI.h>
#include <Wire.h>
// End of constructor list
void setup(void) {
u8g2.begin();
}
void loop(void) {
u8g2.clearBuffer();
u8g2.setFont(u8g2_font_t0_17b_tr );
u8g2.drawStr(0,10,"PTEM GROVA 2022");
u8g2.sendBuffer();
delay(1000);
}
Skica koristi 9360 bytes (29%) od prostora za program. Maksimum je 32256 bajtova.
Globalne promjenjljive koriste 1553 bajtova (75%) RAM-a, ostalo je 495 bajtova za lokalne promjenjljive. Maksimim je 2048 bajtova.
Upišite ovdje za pretraživanje
7°C
20:19
27.10.2021

sketch_oct28a | Arduino 1.8.16 (Windows Store 1.8.51.0)

Datoteka Uredi Skica Alati Pomoć

sketch_oct28a

```
#include <Arduino.h>
#include <U8g2lib.h>

#include <Wire.h>

U8G2_SSD1306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0, U8X8_PIN_NONE);

void setup() {
  u8g2.begin();
}

void loop() {
  u8g2.clearBuffer();
  u8g2.setFont(u8g2_font_t0_15b_tr );
  u8g2.drawStr(0,15,"STEM GRUPA 2022");
  u8g2.sendBuffer();
  delay(1000);

}
```




GND VCC SCL SDA RL DC
STUM GRUPA 20222

```
int StanjeSenzora;
int LedDioda = 6;

void setup() {
  Serial.begin(9600);
  pinMode(LedDioda, OUTPUT);
}

void loop() {
  StanjeSenzora = analogRead(A0);
  if (StanjeSenzora < 15) {
    digitalWrite(LedDioda, HIGH);
  } else {
    digitalWrite(LedDioda, LOW);
  }
}
```

UZV_senzor_i_LED_diioda | Arduino 1.8.16 (Windows Store 1.8.51.0)

Datoteka Uredi Skica Alati Pomoć

UZV_senzor_i_LED_diioda

```
  int StanjeSenzora;
int LedDioda = 6;

void setup() {
  Serial.begin(9600);
  pinMode(LedDioda, OUTPUT);
}

void loop() {
  StanjeSenzora = analogRead(A0);
  if (StanjeSenzora < 15) {
    digitalWrite(LedDioda, HIGH);
  } else {
    digitalWrite(LedDioda, LOW);
  }
}
```

1

Arduino MKR1000 on COM5

9°C Mostly cloudy HRV 19:05 5.11.2021.

sketch_oct12a.ino

```
byte sensorPin = 7;
byte indicator = 6;

void setup()
{
  pinMode(sensorPin,INPUT);
  pinMode(indicator,OUTPUT);
  Serial.begin(9600);
}

void loop()
{
  byte state = digitalWrite(sensorPin);
  digitalWrite(indicator,state);
  if(state == 1)Serial.printin("Pokret je primijećen");
  else if(state == 0)Serial.printin("Nigdje nikog");
}
```

sketch_nov28a | Arduino 1.8.16 (Windows Store 1.8.51.0)

Datoteka Uredi Skica Alati Pomoć

Novo

sketch_nov28a

```
#include <LiquidCrystal.h>


LiquidCrystal lcd(0, 1, 2, 3, 4, 5);

void setup() {
lcd.begin(16, 2);
}

void loop() {
lcd.setCursor(0, 0);
lcd.print("STEM GRUPA");
lcd.setCursor(0, 1);
lcd.print("2021./2022.");
}
```

```
#include <LiquidCrystal.h>


LiquidCrystal lcd(0,1,2,3,4,5);

void setup() {
lcd.begin(16,2);
}


void loop() {

lcd.setCursor(0,0);
lcd.print("STEM GRUPA");
lcd.setCursor(0,1);
lcd.print("2021./2022.");
}
```

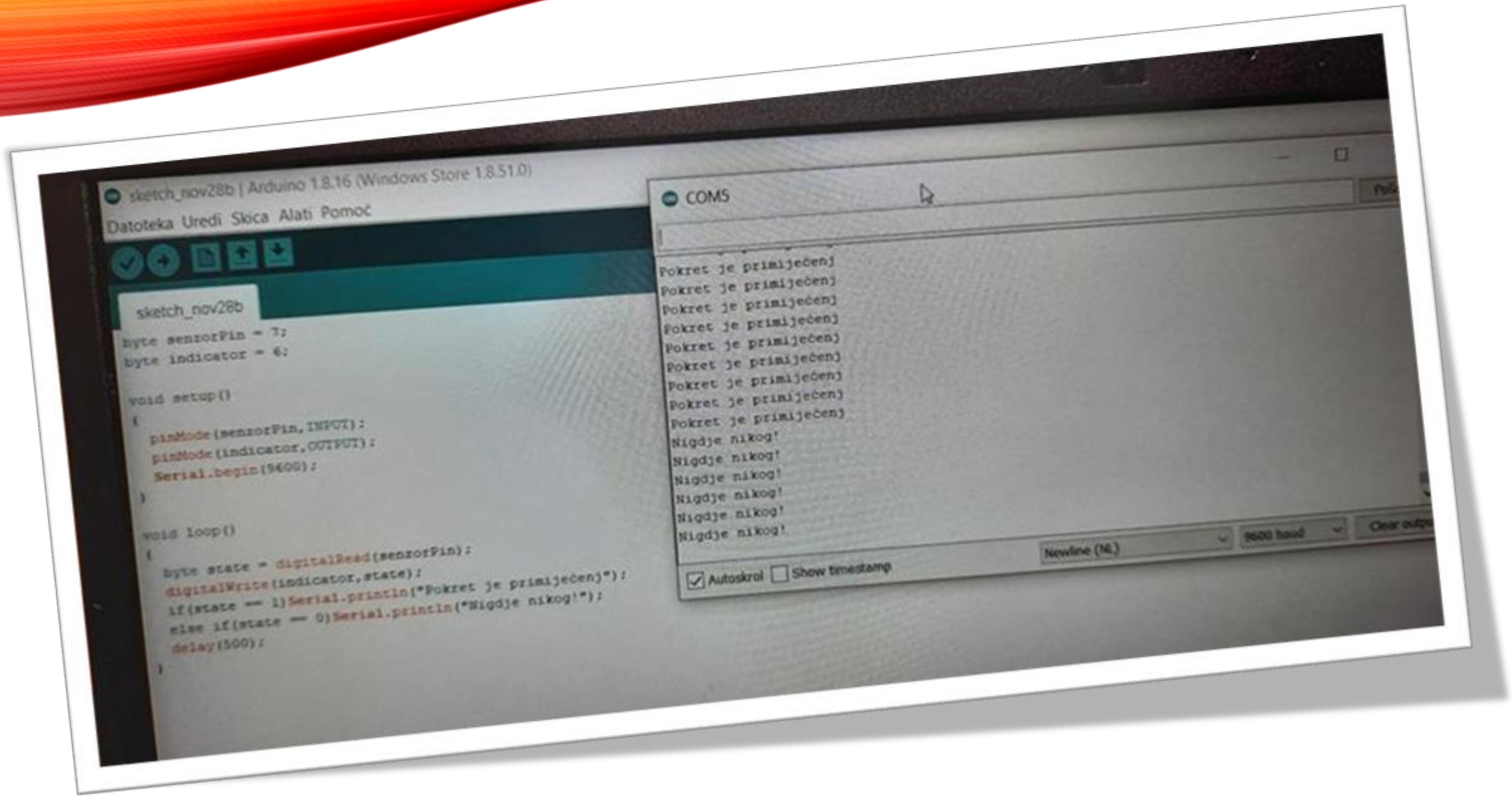

STEM GRUPA
2021./2022.

sketch_oct12a.ino

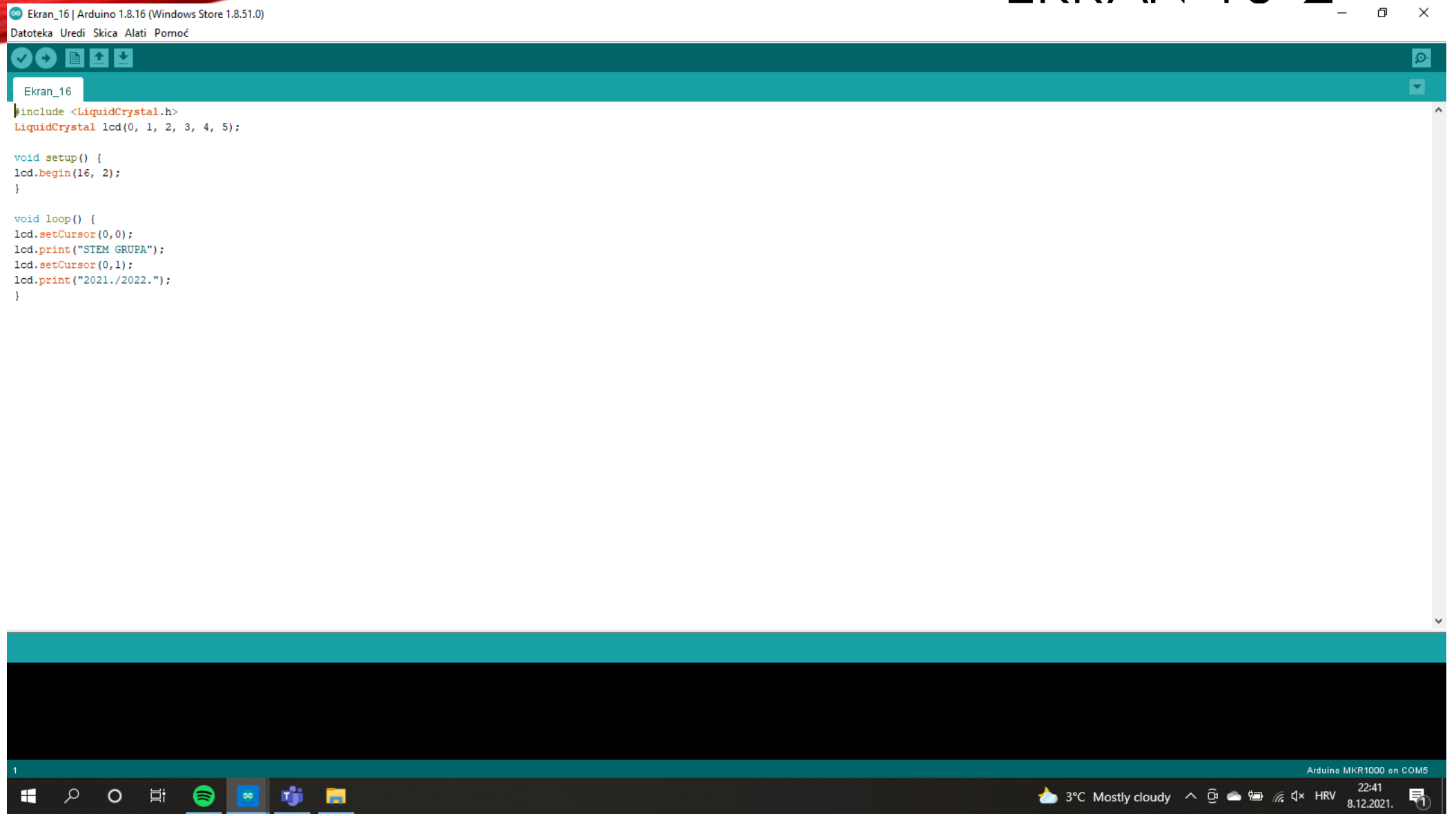
```ino
#include<Arduino.h>
#include<Arduino.h>

#include<Wire.h>

U862_SSDI306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0,U8X8_PIN_NONE);

void setup(void) {
u8g2.begin();
}

void loop(void) {
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_15o_tr);
u8g2.drawStr(0,15,"Stem grupa 2020");
u8g2.sendBuffer();
}
```

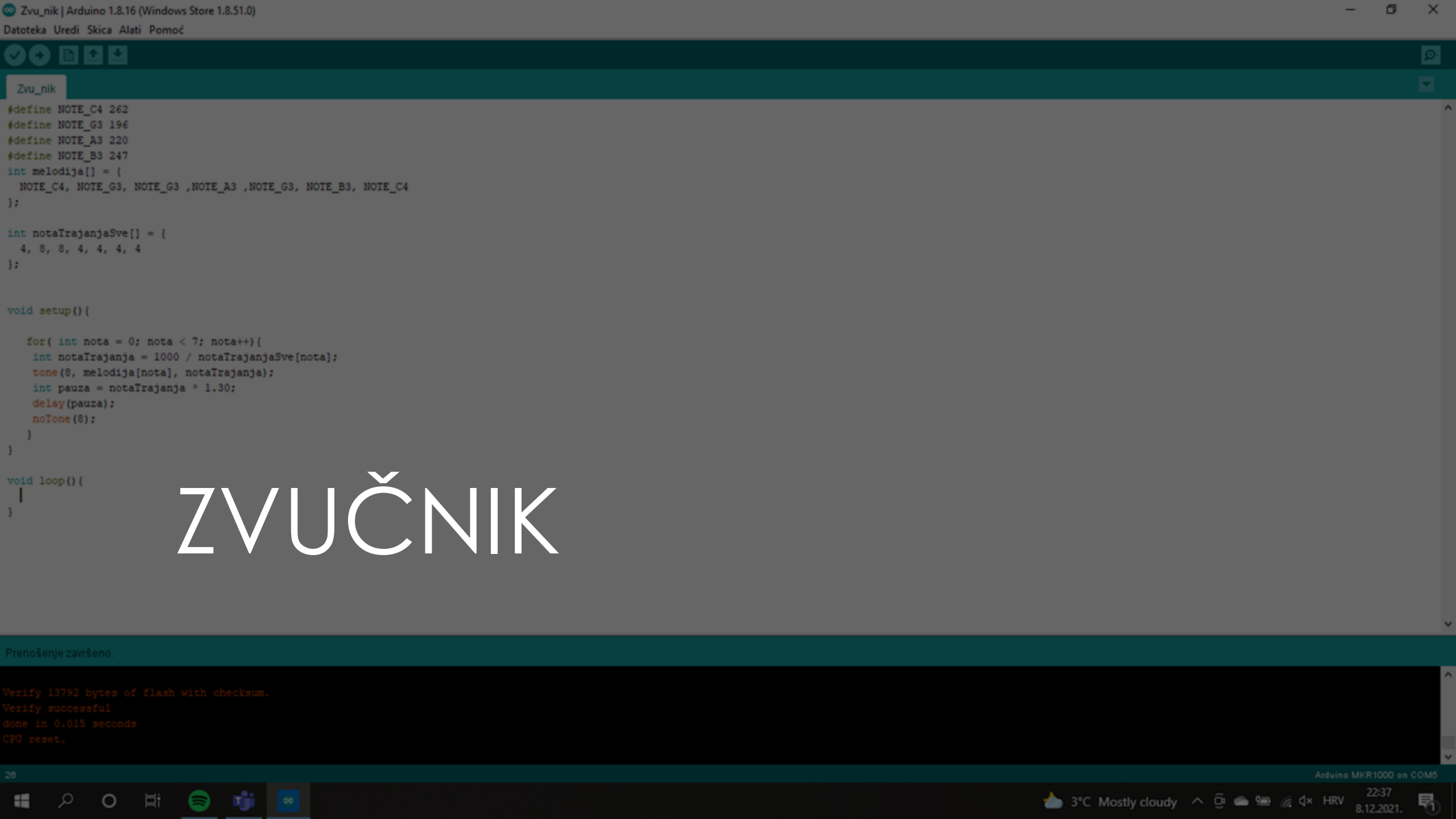
```ino
  int CrvenaDioda = 7;
int Senzor = 9;
int StanjeSenzora;

void setup() {
pinMode(CrvenaDioda, OUTPUT);
pinMode(Senzor, INPUT);
}

void loop() {
 StanjeSenzora = digitalRead(Senzor);
 if (StanjeSenzora == HIGH) {
  digitalWrite(CrvenaDioda, HIGH);
 } else {
digitalWrite(CrvenaDioda, LOW);
 }
}
```

```ino
  int StanjeSenzora;
int LedDioda = 6;

void setup() {
  Serial.begin(9600);
  pinMode(LedDioda, OUTPUT);
}

void loop() {
  StanjeSenzora = analogRead(A0);
  if (StanjeSenzora < 15) {
    digitalWrite(LedDioda, HIGH);
  } else {
    digitalWrite(LedDioda, LOW);
  }
}
```


sketch_nov28b | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
sketch_nov28b
byte senzorPin = 7;
byte indicator = 6;
void setup()
{
pinMode(senzorPin,INPUT);
pinMode(indicator,OUTPUT);
Serial.begin(9600);
}
void loop()
{
byte state = digitalRead(senzorPin);
digitalWrite(indicator,state);
if(state == 1)Serial.println("Pokret je primiječenj");
else if(state == 0)Serial.println("Nigdje nikog!");
delay(500);
}
COMS
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Pokret je primiječenj
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Autoskrol
Show timestamp
Newline (NL)
9600 baud

# EKRAN 16*2


Ekran_16 | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
Ekran_16
#include <LiquidCrystal.h>
LiquidCrystal lcd(0, 1, 2, 3, 4, 5);
void setup() {
lcd.begin(16, 2);
}
void loop() {
lcd.setCursor(0,0);
lcd.print("STEM GRUPA");
lcd.setCursor(0,1);
lcd.print("2021./2022.");
}
1
Arduino MKR1000 on COM5
3°C Mostly cloudy
HRV
22:41
8.12.2021.


Zvu_nik | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
Zvu_nik
#define NOTE_C4 262
#define NOTE_G3 196
#define NOTE_A3 220
#define NOTE_B3 247
int melodija[] = {
NOTE_C4, NOTE_G3, NOTE_G3 ,NOTE_A3 ,NOTE_G3, NOTE_B3, NOTE_C4
};
int notaTrajanjaSve[] = {
4, 8, 8, 4, 4, 4, 4
};
void setup(){
for( int nota = 0; nota < 7; nota++){
int notaTrajanja = 1000 / notaTrajanjaSve[nota];
tone(8, melodija[nota], notaTrajanja);
int pauza = notaTrajanja * 1.30;
delay(pauza);
noTone(8);
}
}
void loop(){
}
ZVUČNIK
Prenošenje završeno.
Verify 13792 bytes of flash with checksum.
Verify successful
done in 0.015 seconds
CPU reset.
26
Arduino MKR1000 on COM5
3°C Mostly cloudy
HRV
22:37
8.12.2021.

PIR_senzor | Arduino 1.8.16 (Windows Store 1.8.51.0)

Datoteka Uredi Skica Alati Pomoć

PIR_senzor

```
byte senzorPin = 7;
byte indicator = 6;

void setup() {
  pinMode(senzorPin,INPUT);
  pinMode(indicator,OUTPUT);
  Serial.begin(9600);
}

void loop() {
  byte state = digitalRead(senzorPin);
  digitalWrite(indicator,state);
  if(state == 1)Serial.println("Pokret je primjećen.");
  else if(state == 0)Serial.println("Nigdje nikog!");
  delay(500);
}
```

COM5

Pošalji

```
Pokret je primjećen.
Nigdje nikog!
Pokret je primjećen.
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
Nigdje nikog!
Nigdje nikog!
Pokret je primjećen.
```

Autoskrol Show timestamp Newline (NL) 9600 baud Clear output

# PIRSENZOR

```
Verify successful
done in 0.011 seconds
CPU reset.
```

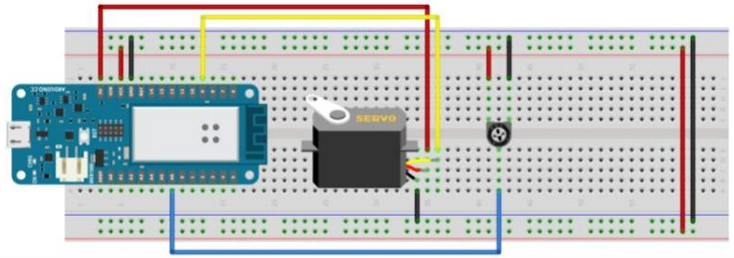
1 Arduino MKR1000 on COM5

3°C Mostly cloudy HRV 21:52 8.12.2021.


Moj_projekt_1 | Arduino 1.8.16 (Windows Store 1.8.51.0)
Datoteka Uredi Skica Alati Pomoć
Moj_projekt_1
int senzor;
#include<Arduino.h>
#include<U8g2lib.h>
#include<Wire.h>
U8G2_SSD1306_128X64_NONAME_F_HW_I2C u8g2(U8G2_R0,U8X8_PIN_NONE);
void setup(void) {
u8g2.begin();
Serial.begin(9600);
}
void loop(void) {
senzor = analogRead(A0);
if (senzor < 40) {
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"STOP!");
u8g2.sendBuffer();
}
else if (senzor < 60) {
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"Uspori!");
u8g2.sendBuffer();
}
else{
u8g2.clearBuffer ();
u8g2.setFont(u8g2_font_t0_22b_tr);
u8g2.drawStr(0,15,"Uredu je.");
u8g2.sendBuffer();
}
PARKING SENZOR
Arduino MKR1000 on COM5
3°C Mostly cloudy
HRV
22:43
8.12.2021.

```
#include <Servo.h>

Servo motor;                // definiranje objekta iz biblioteke
int Motor = 9;
int Potenciometar = A6;
int potenciometar;

void setup() {
  pinMode(Potenciometar, INPUT); //postavi izvod Potenciometar(A6) kao ulazni
  pinMode(Motor, OUTPUT); //postavi izvod Motor(9) kao izlazni
  motor.attach(Motor);  // postavi object na izvod Motor (9)
}
```

Prikaz spajanja




# *MJENJANJE POLOŽAJA METLICE U OVISNOSTI O POLOŽAJU POTENCIOMETRA*

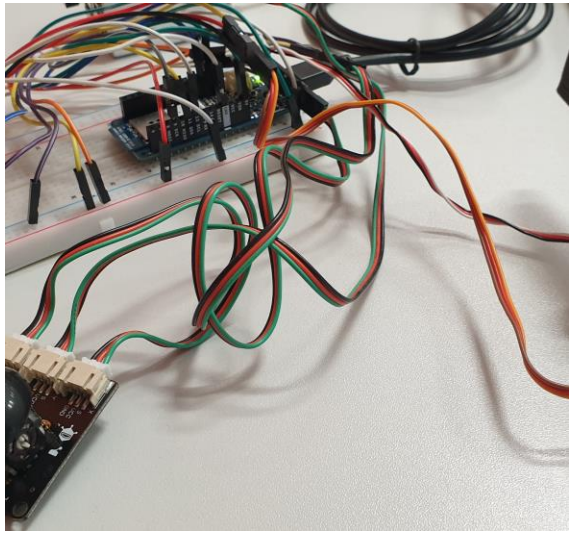

JOYSTICK I 2 SERVO MOTORA

Mini_kuglana | Arduino 1.8.11

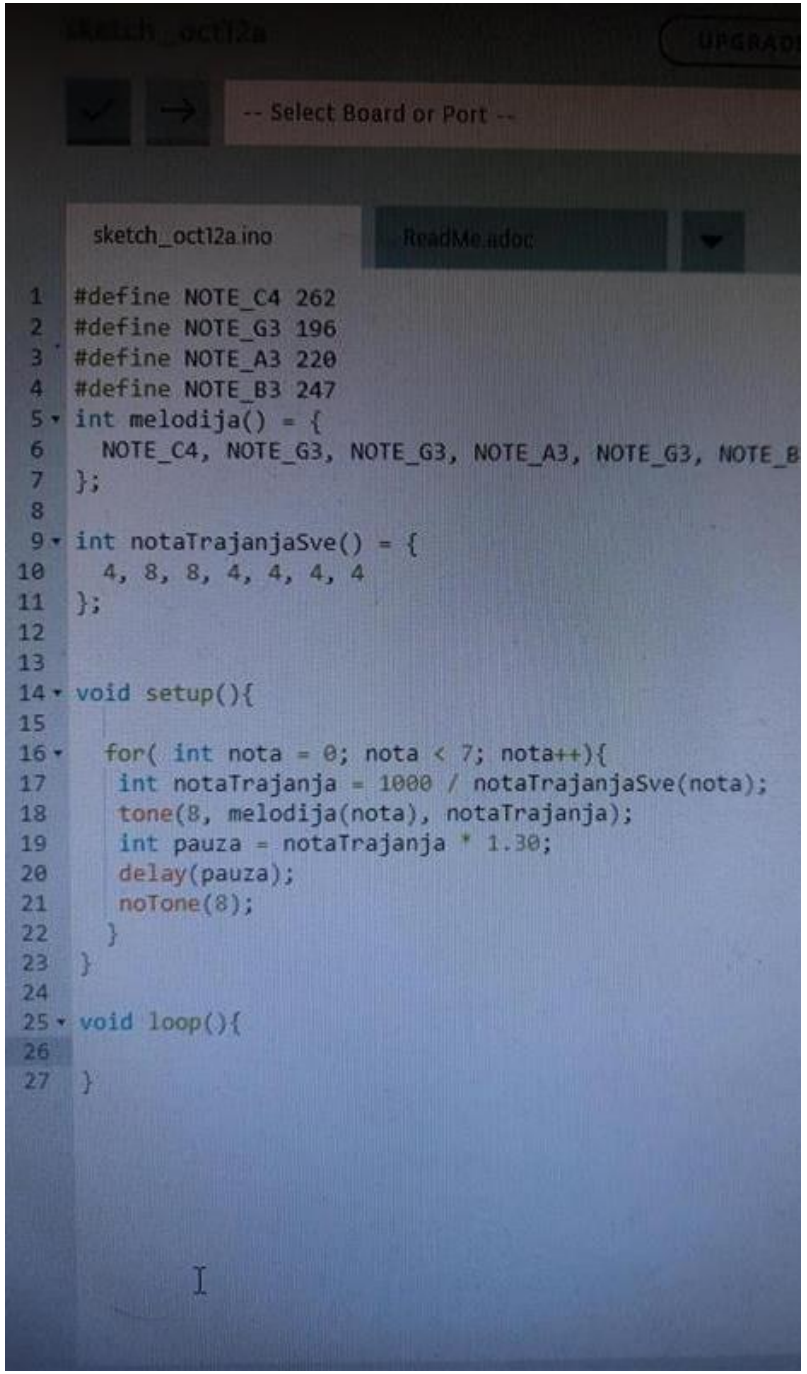
Datoteka Uređi Skica Alati Pomoć

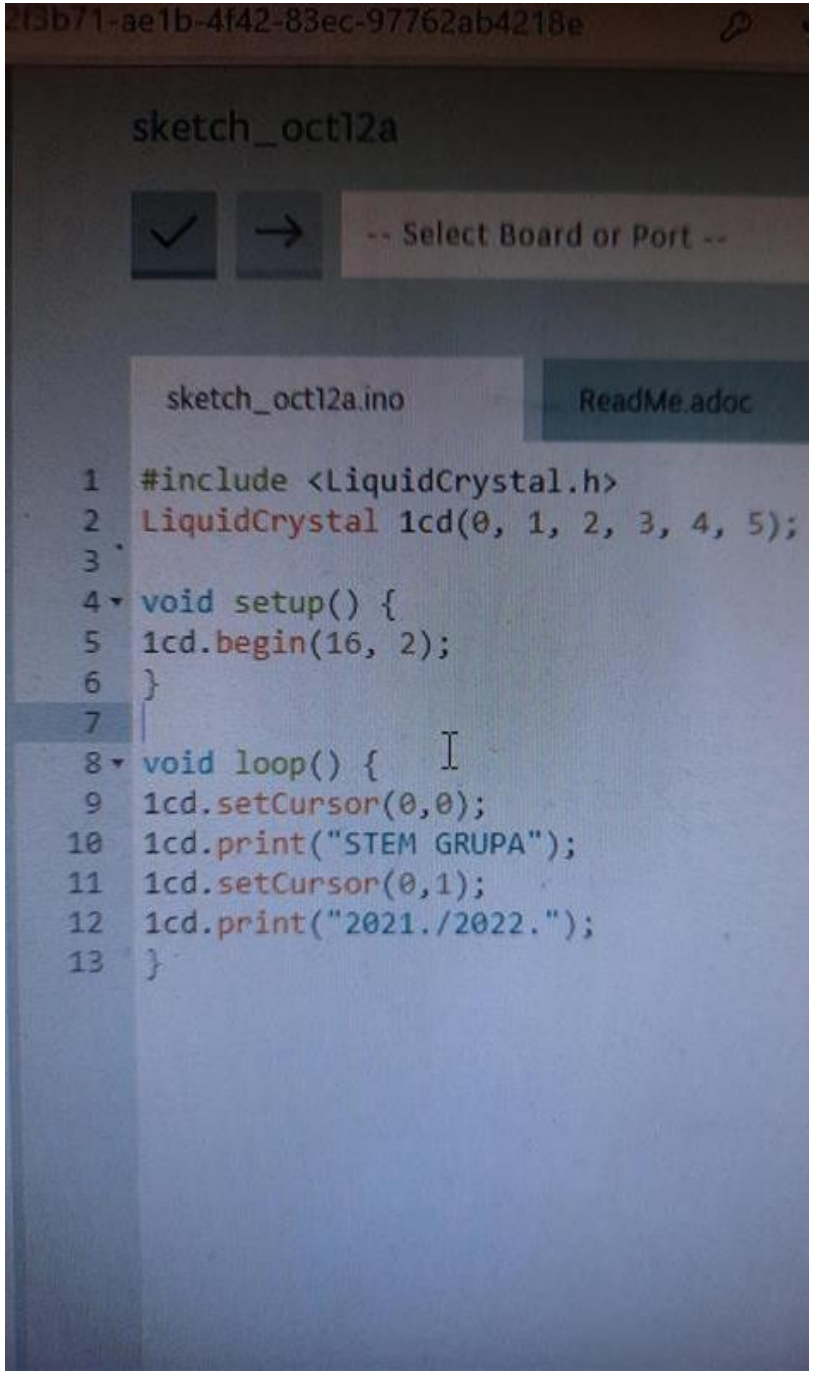
Mini_kuglana §

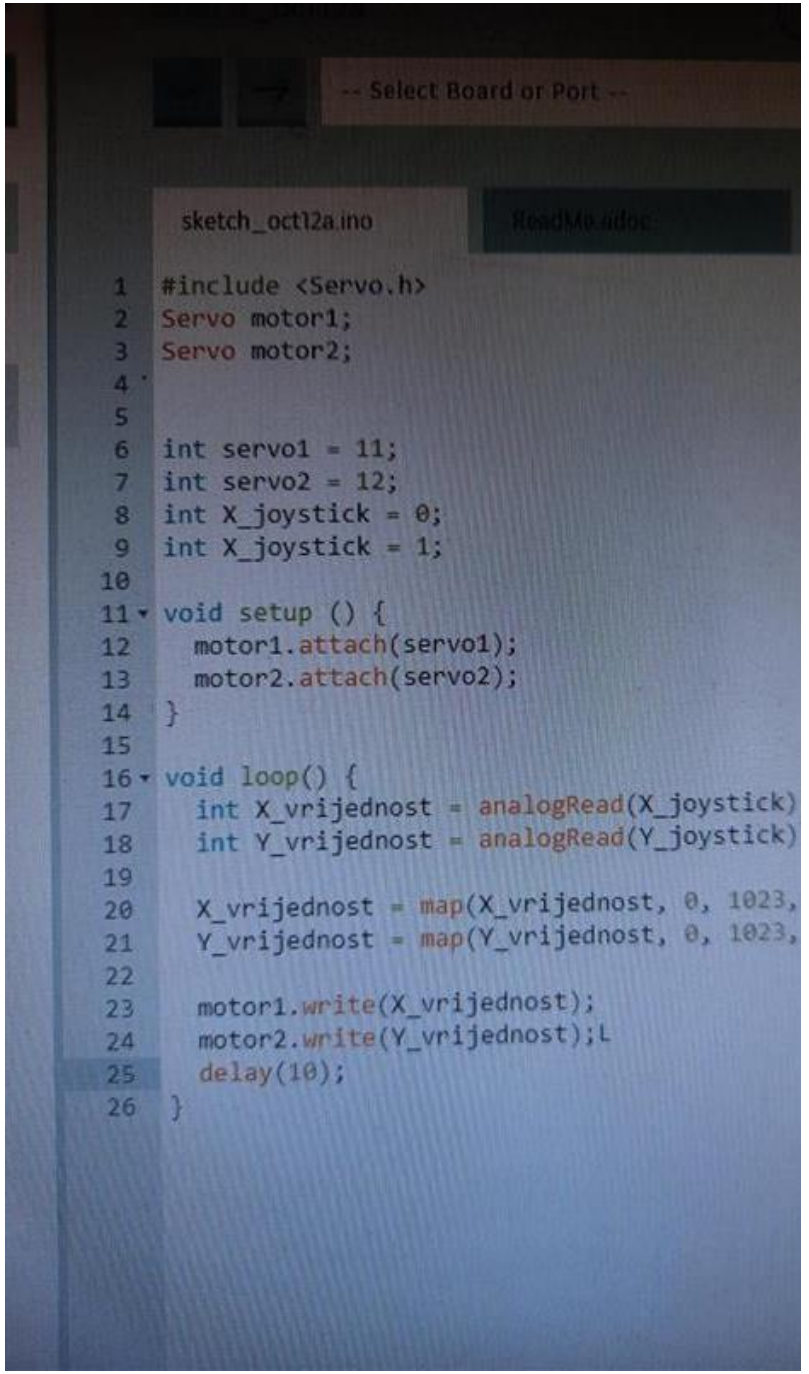
```
#include <Servo.h>
Servo motor1;              // servo motori 1 i 2
Servo motor2;

int servo1 = 11;            // servo 1 na pinu 11
int servo2 = 12;            // servo 2 na pinu 12
int X_joystick = 0;         // X od joystick-a na analognom pinu 0
int Y_joystick = 1;        // Y od joystick-a na analognom pinu 1

void setup(){
  motor1.attach(servo1);    // motori 1 i 2 kao servo
  motor2.attach(servo2);
}

void loop(){
  int X_vrijednost = analogRead(X_joystick); // očitanje vrijednosti X
  int Y_vrijednost = analogRead(Y_joystick);    // očitanje vrijednosti Y  (0-1023)

  X_vrijednost = map(X_vrijednost, 0, 1023, 25, 180);    // pomak joystica prema koordinati X
```



SPOJILI SMO 1 I KASNIJE 2 SERVO MOTORA I UPRAVLJALIE SA JOYSTICK KOMPONENTOM


-- Select Board or Port --
sketch_oct12a.ino
ReadMe.adoc
#define NOTE_C4 262
#define NOTE_G3 196
#define NOTE_A3 220
#define NOTE_B3 247
int melodija() = {
NOTE_C4, NOTE_G3, NOTE_G3, NOTE_A3, NOTE_G3, NOTE_B
};
int notaTrajanjaSve() = {
4, 8, 8, 4, 4, 4, 4
};
void setup(){
for( int nota = 0; nota < 7; nota++){
int notaTrajanja = 1000 / notaTrajanjaSve(nota);
tone(8, melodija(nota), notaTrajanja);
int pauza = notaTrajanja * 1.30;
delay(pauza);
noTone(8);
}
}
void loop(){
}


sketch_oct12a
-- Select Board or Port --
sketch_oct12a.ino
ReadMe.adoc
#include <LiquidCrystal.h>
LiquidCrystal lcd(0, 1, 2, 3, 4, 5);
void setup() {
lcd.begin(16, 2);
}
void loop() {
lcd.setCursor(0,0);
lcd.print("STEM GRUPA");
lcd.setCursor(0,1);
lcd.print("2021./2022.");
}


-- Select Board or Port --
sketch_oct12a.ino
ReadMe.adoc
#include <Servo.h>
Servo motor1;
Servo motor2;
int servo1 = 11;
int servo2 = 12;
int X_joystick = 0;
int X_joystick = 1;
void setup () {
motor1.attach(servo1);
motor2.attach(servo2);
}
void loop() {
int X_vrijednost = analogRead(X_joystick)
int Y_vrijednost = analogRead(Y_joystick)
X_vrijednost = map(X_vrijednost, 0, 1023,
Y_vrijednost = map(Y_vrijednost, 0, 1023,
motor1.write(X_vrijednost);
motor2.write(Y_vrijednost);
delay(10);
}

https://izradi.croatianmakers.hr/user/zeljko_vuckovic/?profiletab=uo_learndash_certificates



TEČAJEVI

EDUKACIJSKI MATERIJALI

PROJEKTI

NATJEČAJI

Željko Vučković

O meni | Moji tečajevi | Moji certifikati | Moji bedževi | Moj rang

## OSVOJENI CERTIFIKATI

MICRO:BIT ARDUINO MBOT MICRO:MAQUEEN BOSON

AQ:BIT NAPREDNI ARDUINO ARDUINO IOT

# LED OSVJETLJENJE

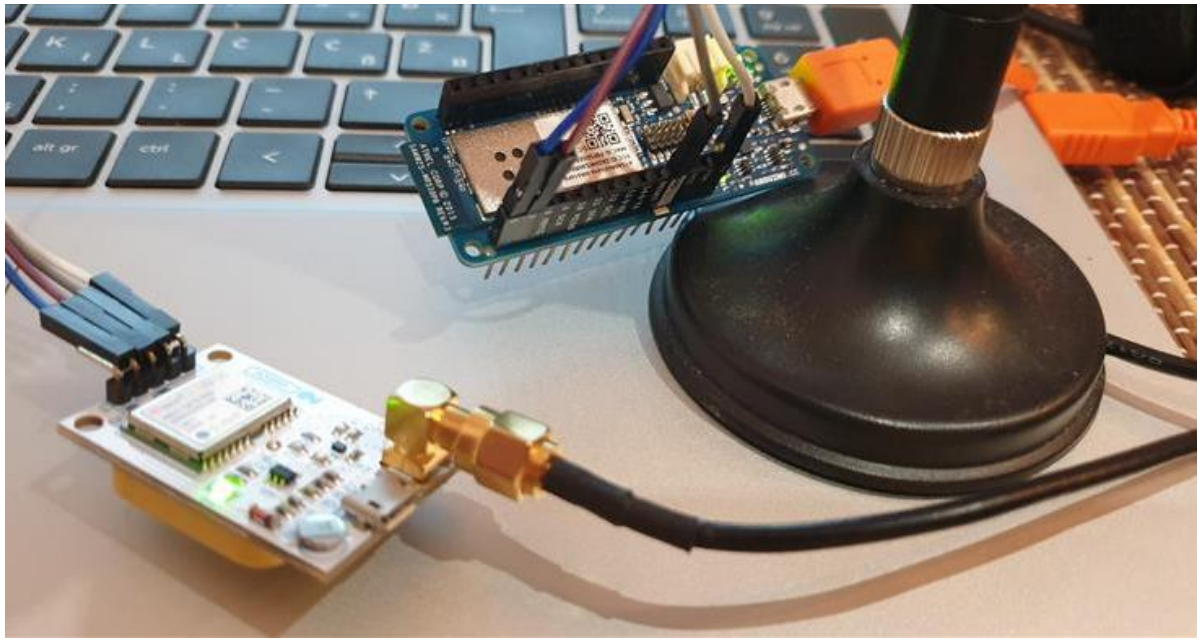
- https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EfGae5eKZV5Luj1aL5ZlIYMBmv9xZvXgwk2KIv4EVqaQWQ?e=QxktFG

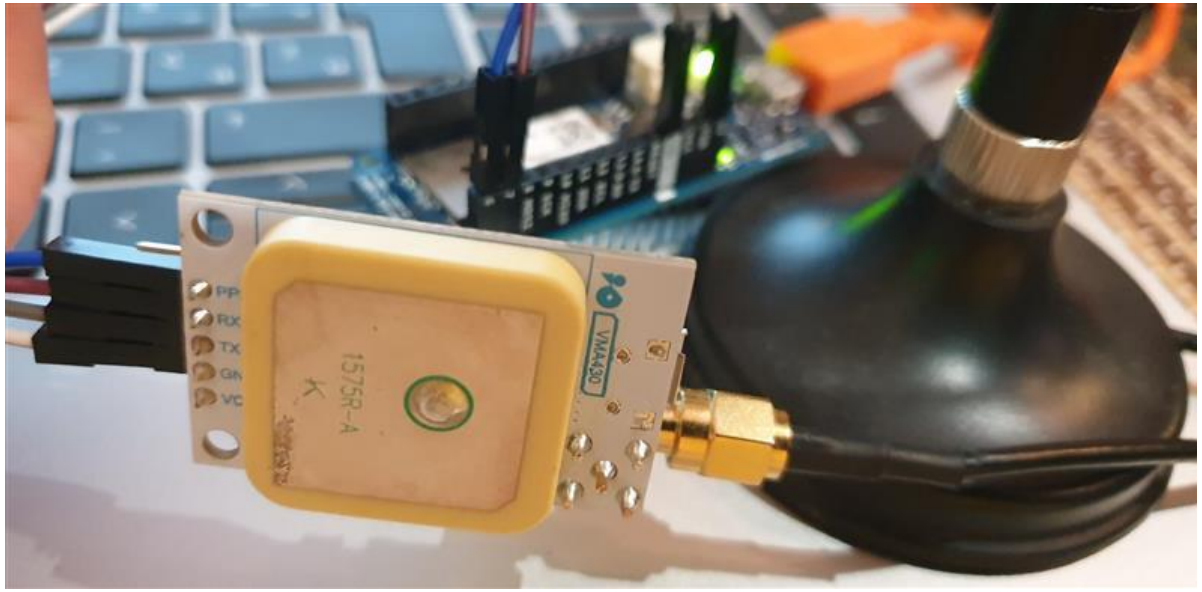
# MEGA 2560 I SIM 900 ZA GSM

- https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EbL2IUB0AbpNtbElDUUCk0UB8irjuPBU3trFmN7icPxgGA?e=Tcosha

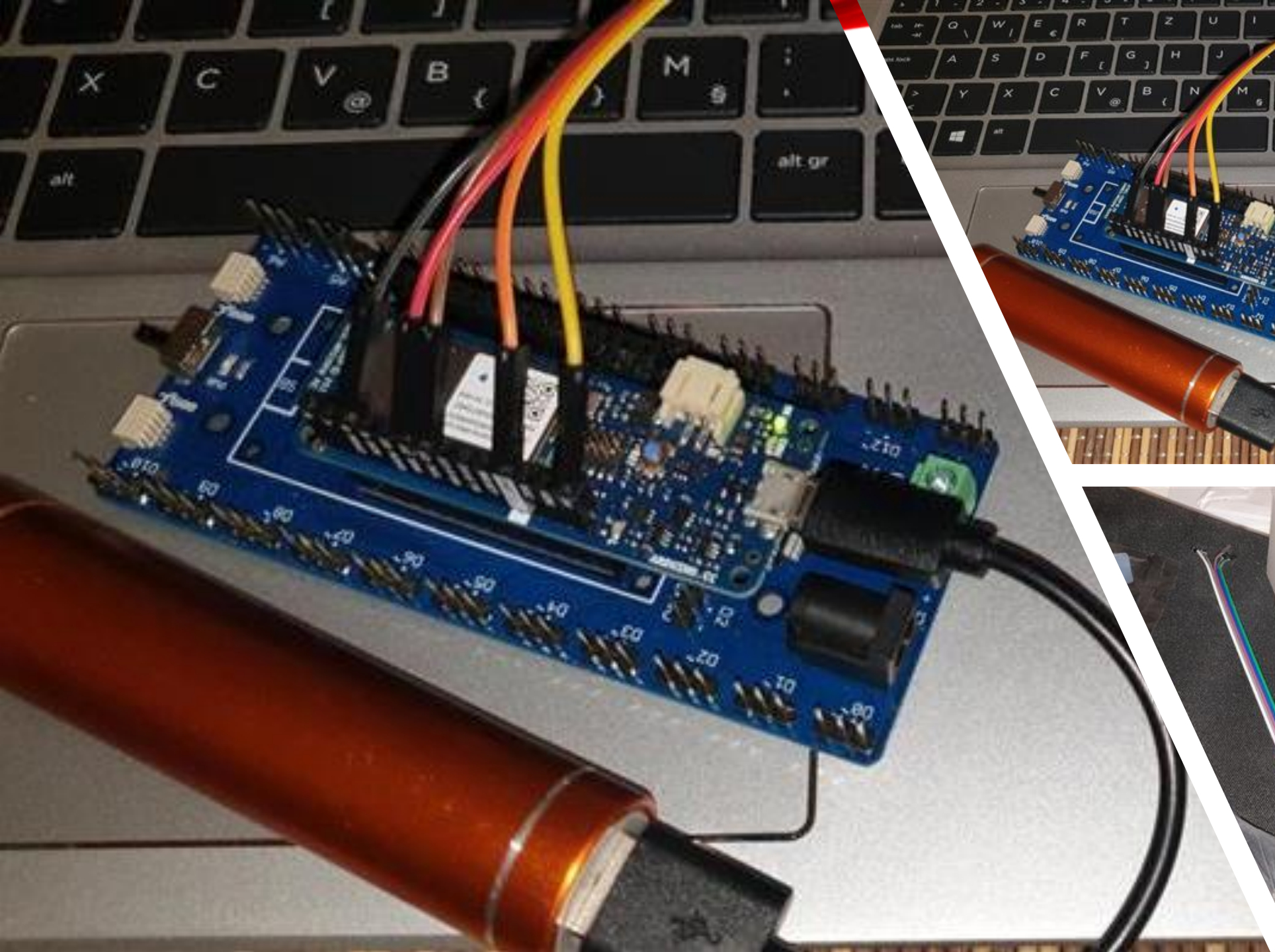
# GPS SATELITI

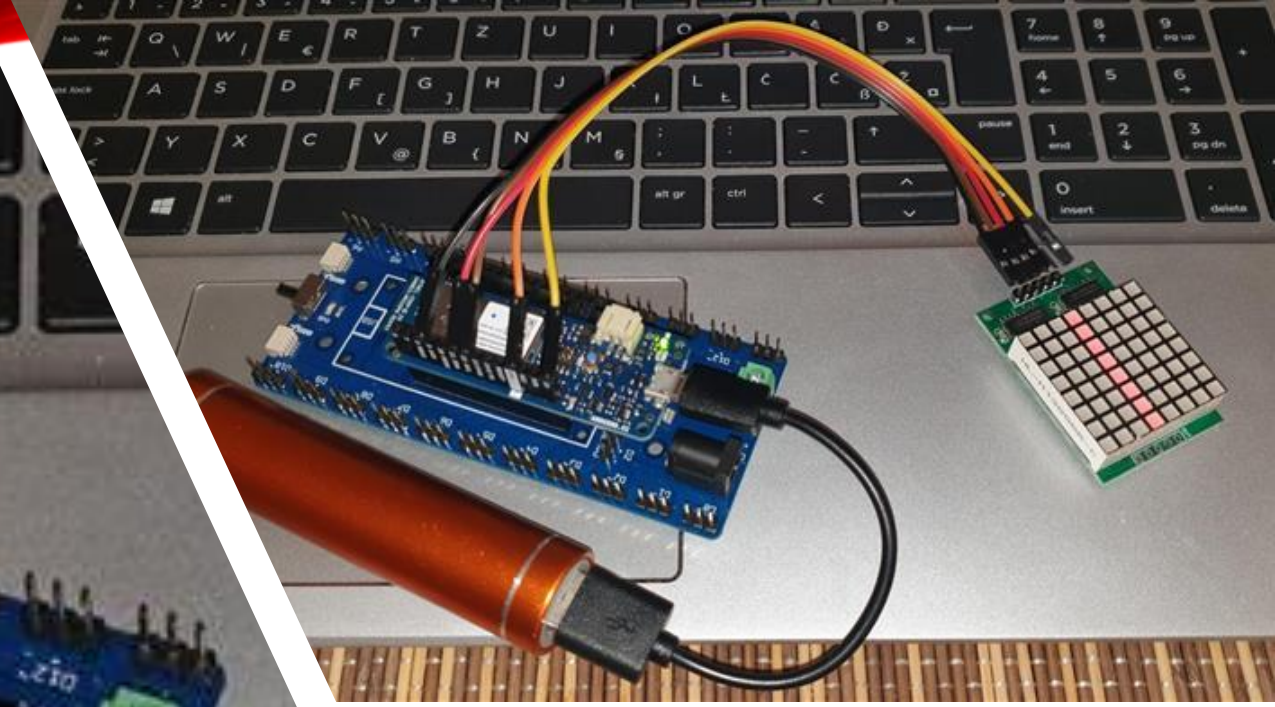
- https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/EXBHGMCWYM1Bi3kI6VykyBgBDSGjAJXLSDzPMxEKqiT82Q?e=c8JTyE




1575R-A
VMA430


VMA430
NEO-7M-0-000
3550423233 6
1801
0400 04
blox
PPS





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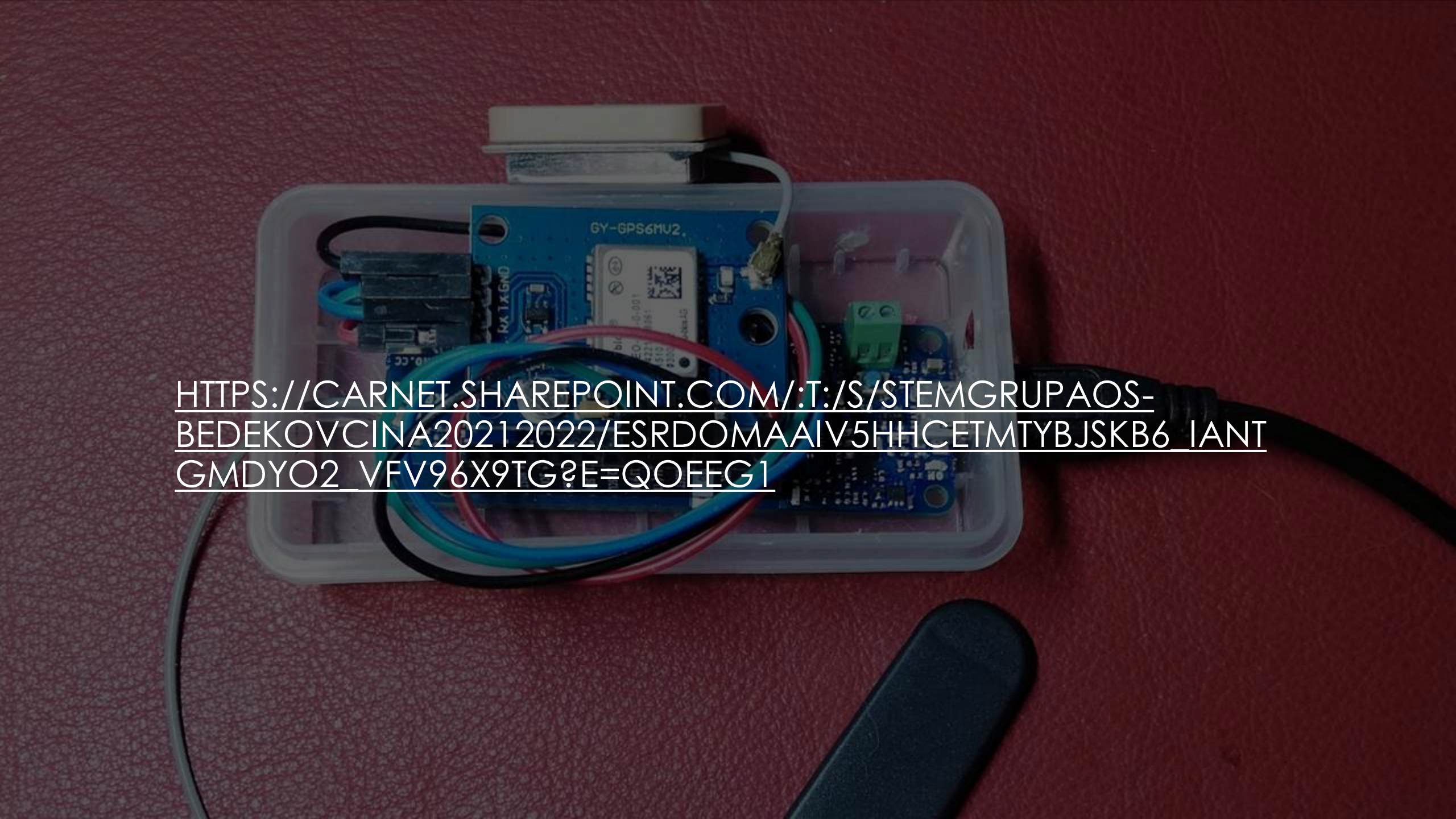


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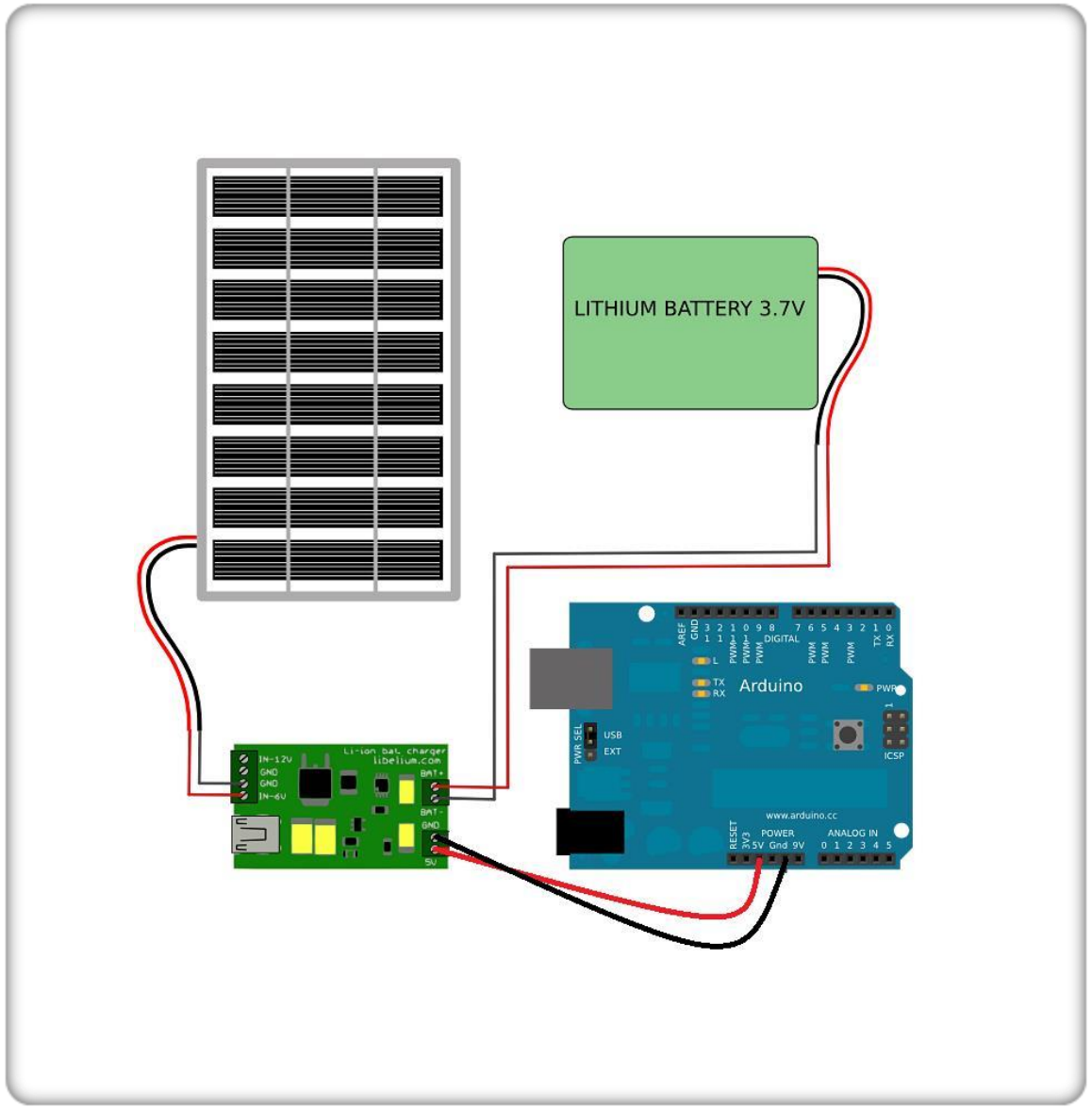
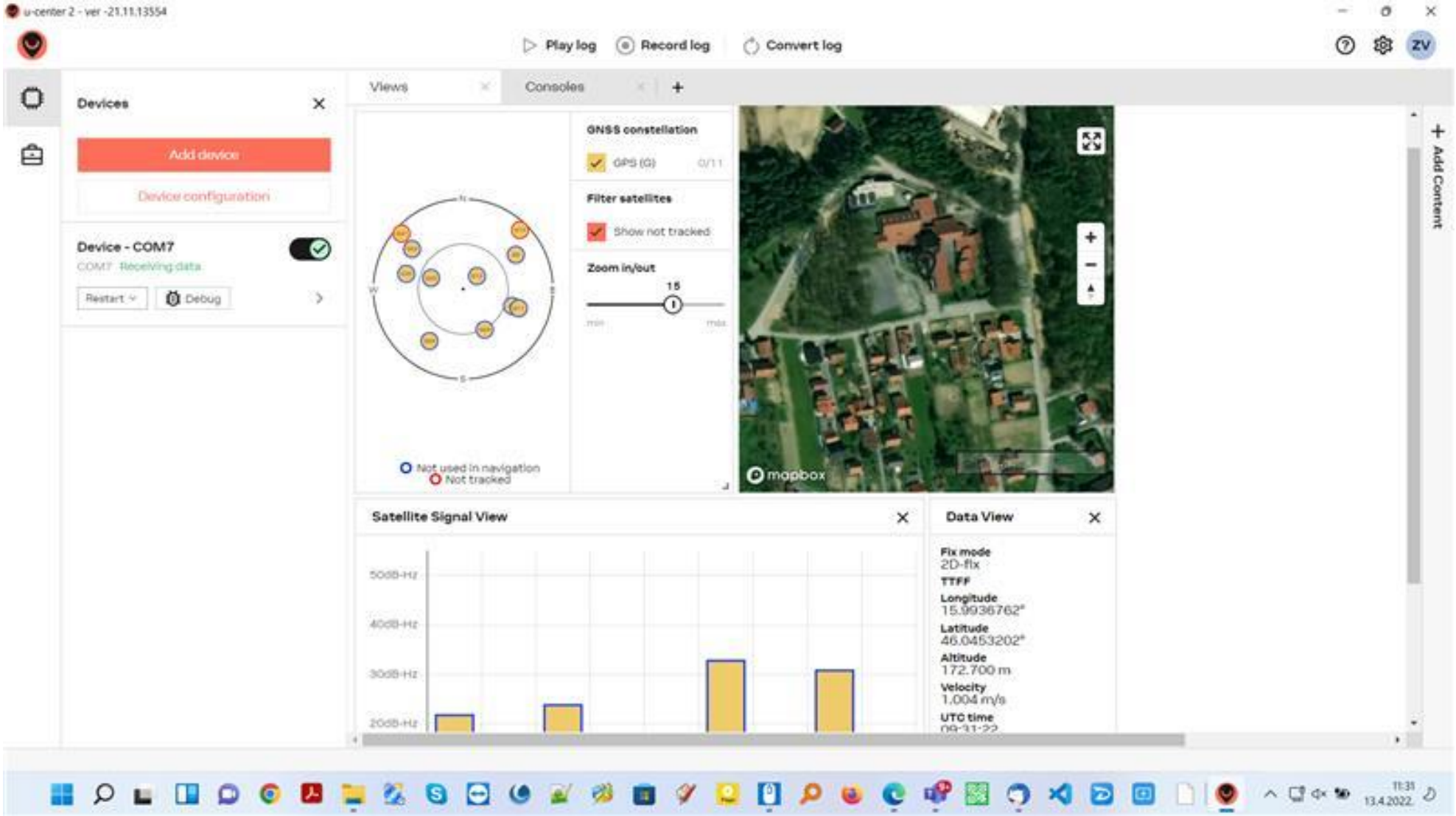
POWER BANK




# IZVOR NAPAJANJA ZA NEKO PRIJEVOZNO SREDSTVO: SOLARNI MODU

# PRIKAZ SATELITA: NAŠA ŠKOLA I POZICIJA



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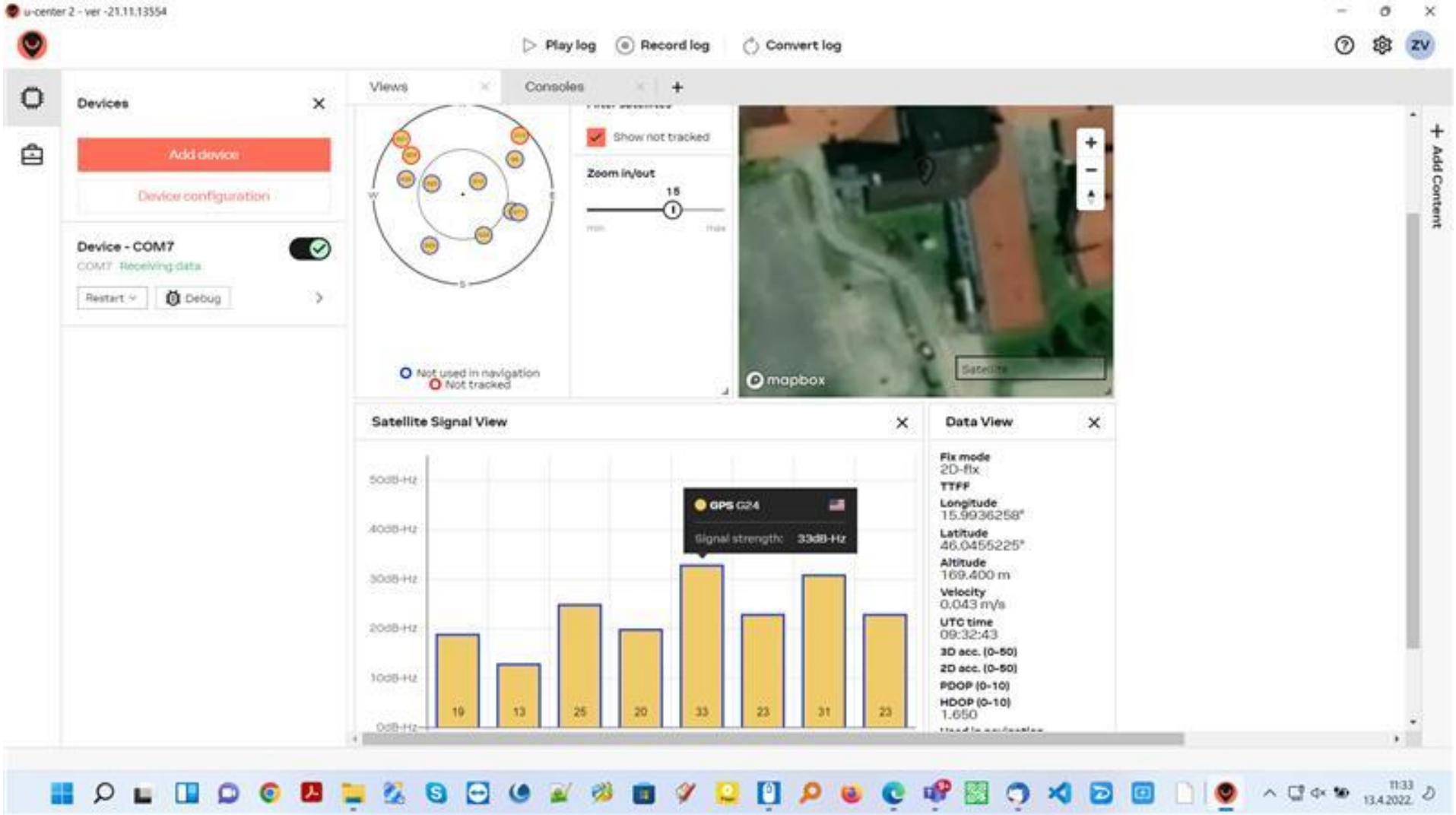
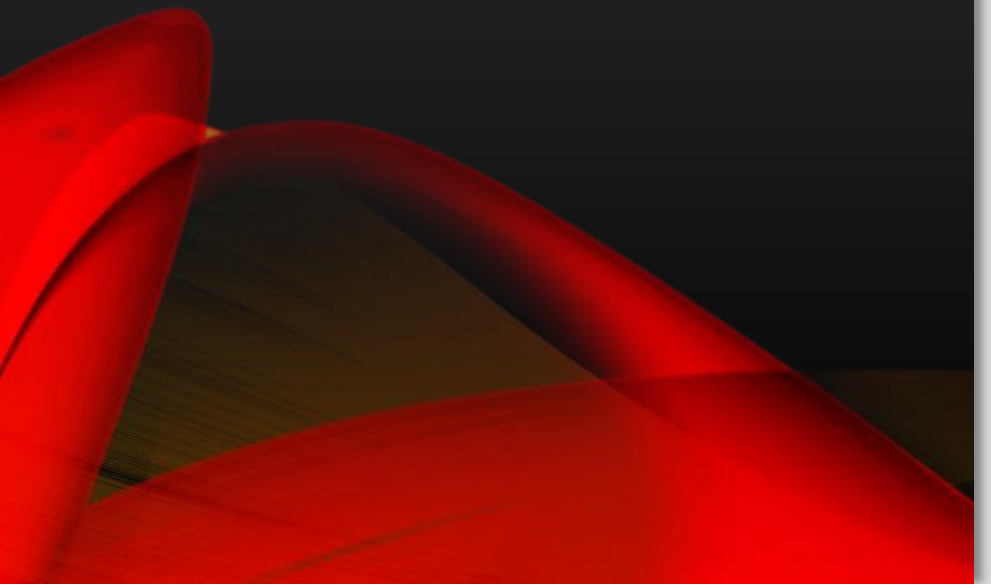

u-center 2 - ver -21.11.13554
Play log
Record log
Convert log
ZV
Devices
Add device
Device configuration
Device - COM7
COM7 Receiving data
Restart
Debug
Views
Consoles
Show not tracked
Zoom in/out
15
Not used in navigation
Not tracked
mapbox
Satellite
Add Content
Satellite Signal View
GPS G24
Signal strength: 33dB-Hz
50dB-Hz
40dB-Hz
30dB-Hz
20dB-Hz
10dB-Hz
0dB-Hz
19
13
25
20
33
23
31
23
Data View
Fix mode
2D-fix
TTFF
Longitude
15.9936258°
Latitude
46.0455225°
Altitude
169.400 m
Velocity
0.043 m/s
UTC time
09:32:43
3D acc. (0-50)
2D acc. (0-50)
PDOP (0-10)
HDOP (0-10)
1.650
11:33
13.4.2022.

# VIDEO SATELITA



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# OPIS PROJEKTA

- https://carnet.sharepoint.com/:v:/s/STEMgrupaos-bedekovcina20212022/Ee0-LaQuQX9JmYsLOYfD3moBkh2h_v-c2nodFyJDv6J2GQ?e=iO1cIv


# OPREMA I TIM

# DOKUMENTACIJA

- https://carnet.sharepoint.com/:w:/s/STEMgrupaos-bedekovcina20212022/EVGKbSuBrBJBvQFYqBR_w-oBrzQyh1BSVMwp2Xn10A_GJg?e=aHMk90

# *UPOZNALI SMO RAVNATELJA, PEDAGOGA, DJELATNIKE I UČENIKE O PROJEKTU…*

# STEM GRUPA 2021/2022