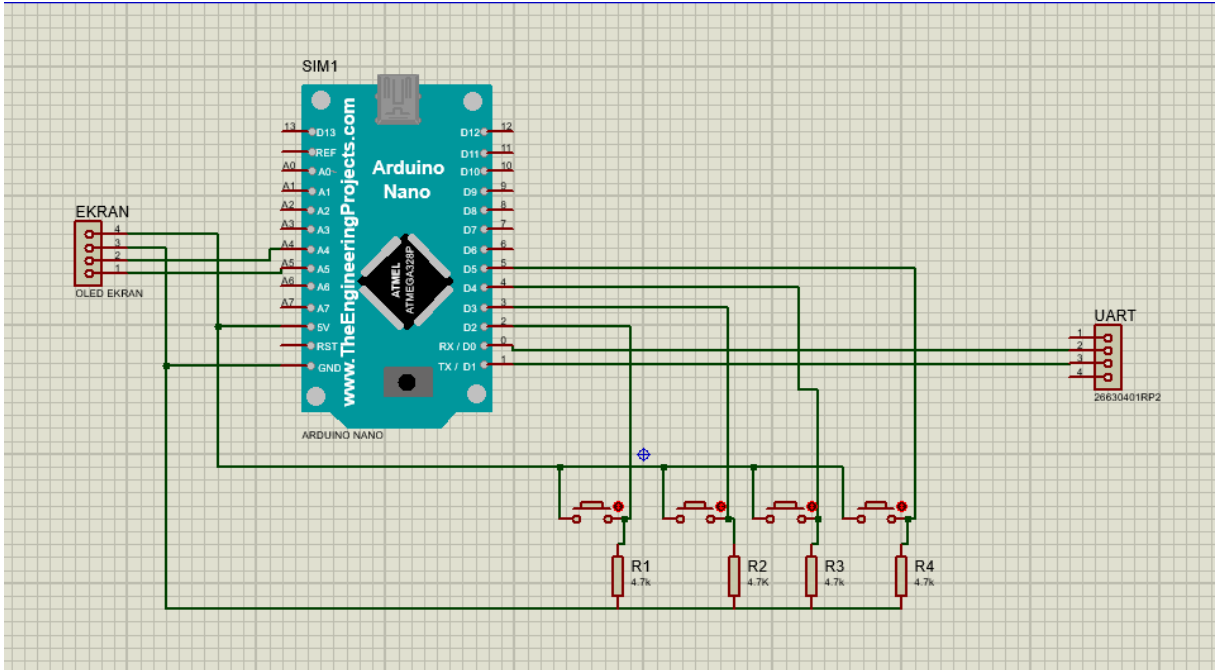
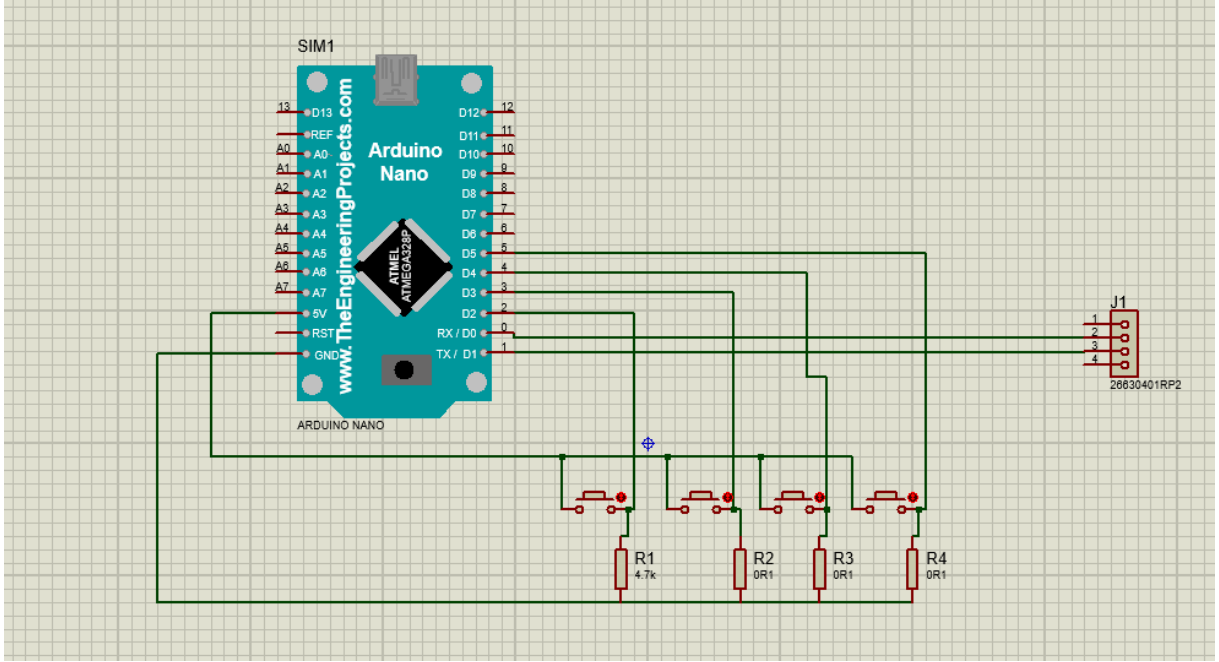
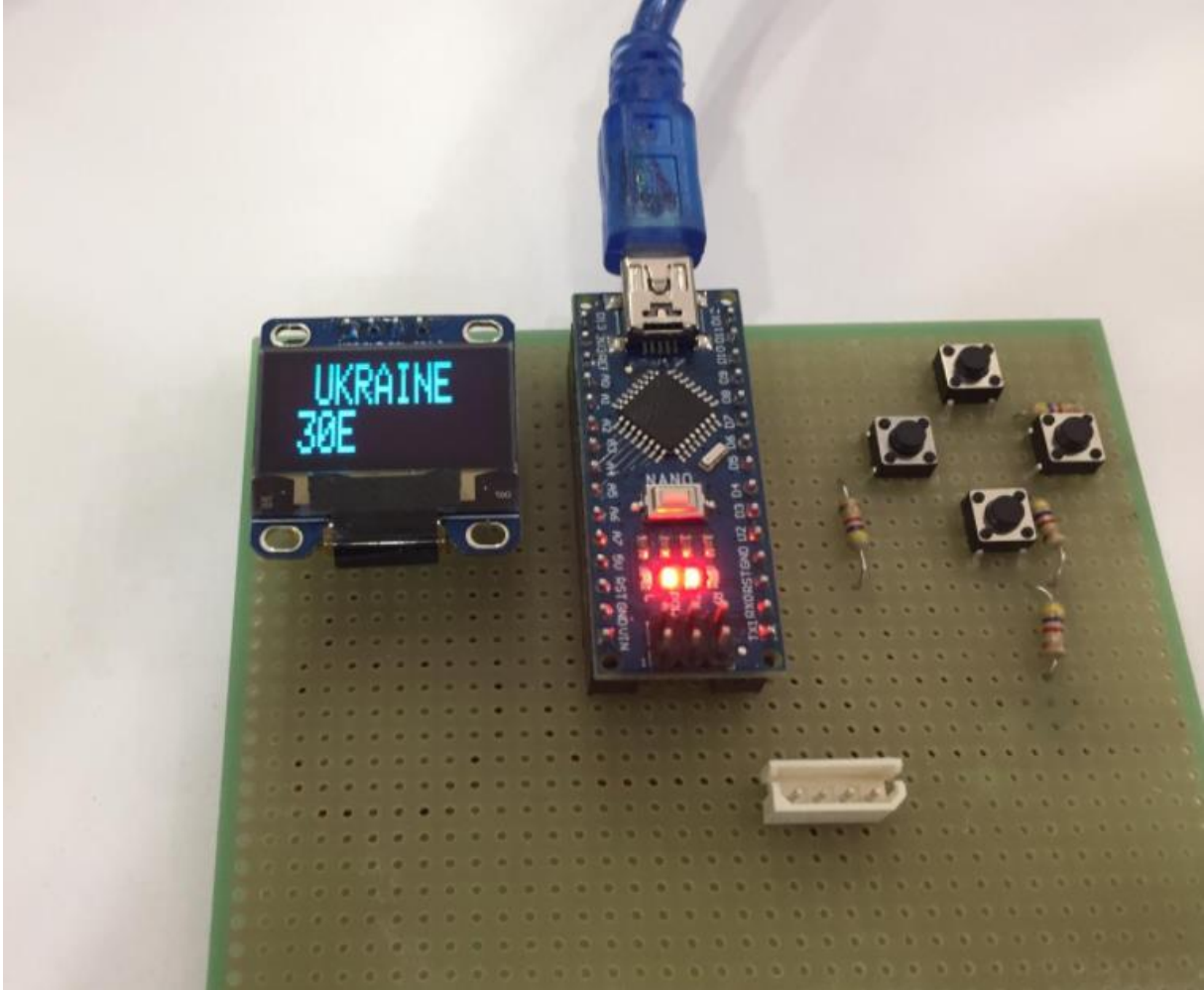


GPS PROJESİ

Projede istenilen ülkelerin GPS verilerinin firma bünyesinde üretilen antenlerin çalışma testleri yapılırken ülkelere göre kullanılabilmesi hedeflenmiştir. Arduino üzerindeki kod güncellenir, enerji verilmesiyle birlikte istediğimiz ülkenin kodları UART protokolü ile iletme başlar. Eklenen tuşlar ile GPS noktaları arasında gezilebilmektedir.



Şematikte görüleceği üzere kurulan devrede push butonlar yardımı ile çeşitli fonksiyonlar yerine getirilmektedir. Yukarı aşağı butonları ile ülkeler arasında seçim yapılırken sağ ve sol butonları yardımı ile o ülkenin boylamları arasında geçiş sağlanmaktadır. Şematik üzerinde sırasıyla yukarı aşağı sol sağ tuşları olarak konumlandırılmıştır.



Arduino kartımızın beslemesini USB giriş ile yapmaktayız fakat V_{in} pini üzerinden de beslenebilmeye imkan sağlanmaktadır.

Kodlama kısmına gelecek olursak Oled ekran için eklenen bazı kütüphanelerden yardım alınarak gerekli işlevleri yerine getirecek kod dizini yazılmıştır. Tuşların basım değerleri bir countera aktarılır ordan alınan veriler switch case yapılarında karşılaştırılarak gerekli değerlerin basılması işlemleri gerçekleştirilir. Yazılan kodu aşağıya açık şekilde bırakılmıştır.

```

#include <SPI.h>

#include <Wire.h>

#include <Adafruit_GFX.h>
#include <Adafruit_SSD1306.h>


#define SCREEN_WIDTH 128 // OLED display width, in pixels
#define SCREEN_HEIGHT 32 // OLED display height, in pixels


#define upButtonPin 2
#define downButtonPin 3
#define rightButtonPin 5
#define leftButtonPin 4

// Declaration for an SSD1306 display connected to I2C (SDA, SCL pins)

Adafruit_SSD1306 display(SCREEN_WIDTH, SCREEN_HEIGHT, &Wire, -1);


#define NUMFLAKES 10 // Number of snowflakes in the animation example


#define LOGO_HEIGHT 16
#define LOGO_WIDTH 16
static const unsigned char PROGMEM logo_bmp[] =
{ B00000000, B11000000,
  B00000001, B11000000,
  B00000001, B11000000,
  B00000011, B11100000,
  B11110011, B11100000,
  B11111110, B11111000,
  B01111110, B11111111,
  B00110011, B10011111,
  B00011111, B11111100,
  B00001101, B01110000,

```

```
B00011011, B10100000,  
B00111111, B11100000,  
B00111111, B11110000,  
B01111100, B11110000,  
B01110000, B01110000,  
B00000000, B00110000 };
```

```
int upPressCount = 0;    // This counter measures the amount of times the user pushes the "up"  
button.
```

```
int leftPressCount = 0;
```

```
unsigned long eskiZaman=0;
```

```
unsigned long yeniZaman;
```

```
void setup() {
```

```
    Serial.begin(9600);
```

```
    // SSD1306_SWITCHCAPVCC = generate display voltage from 3.3V internally
```

```
    if(!display.begin(SSD1306_SWITCHCAPVCC, 0x3C)) { // Address 0x3C for 128x32
```

```
        Serial.println(F("SSD1306 allocation failed"));
```

```
        for(;;); // Don't proceed, loop forever
```

```
    }
```

```
    // Show initial display buffer contents on the screen --
```

```
    // the library initializes this with an Adafruit splash screen.
```

```
    display.display();
```

```
    delay(2000); // Pause for 2 seconds
```

```
    // Clear the buffer
```

```
    display.clearDisplay();
```

```
    // Draw a single pixel in white
```

```
// display.drawPixel(10, 10, SSD1306_WHITE);

// Show the display buffer on the screen. You MUST call display() after
// drawing commands to make them visible on screen!
//display.display();
delay(2000);
// display.display() is NOT necessary after every single drawing command,
// unless that's what you want...rather, you can batch up a bunch of
// drawing operations and then update the screen all at once by calling
// display.display(). These examples demonstrate both approaches...
```

```
// Invert and restore display, pausing in-between
display.invertDisplay(true);
delay(1000);
display.invertDisplay(false);
delay(1000);
```

```
Serial.print("connected");

pinMode(leftButtonPin, INPUT); // SETS THE leftButtonPin AS AN INPUT
pinMode(rightButtonPin, INPUT); // SETS THE rightButtonPin AS AN INPUT
pinMode(upButtonPin, INPUT); // SETS THE upButtonPin AS AN INPUT
pinMode(downButtonPin, INPUT); // SETS THE downButtonPin AS AN INPUT

}
```

```
void loop() {
    // put your main code here, to run repeatedly:
    yeniZaman = millis();
    if(yeniZaman-eskiZaman > 100){
```

```
if(digitalRead(leftButtonPin) == 1)           // Once the button is released, the push is registered
and the code below runs.
```

```
{
    leftPressCount--;                          // Both the up and down press counts will be reset to zero
when the left button is pushed.
    // downPressCount = 0;
    // Serial.println("sol");
    // Serial.println(leftPressCount);
}
```

```
if(digitalRead(rightButtonPin) == 1)          // Once the button is released, the push is registered
and the code below runs.
```

```
{
    leftPressCount++;                          // Both the up and down press counts will be reset to zero
when the left button is pushed.
    // downPressCount = 0;
    Serial.println("sag");
    Serial.println(leftPressCount);
}
```

```
if(digitalRead(upButtonPin) == 1)             // Once the button is released, the push is registered
and the code below runs.
```

```
{
    upPressCount++;                          // Both the up and down press counts will be reset to zero
when the left button is pushed.
```

```
    // downPressCount = 0;
    Serial.println("yukari");
    Serial.println(upPressCount);
    //Serial.println(menuOption[upPressCount]);
}
```

```
if(digitalRead(downButtonPin) == 1)           // Once the button is released, the push is
registered and the code below runs.
```

```
{
    // Both the up and down press counts will be reset to zero when the left
button is pushed.
```

```
upPressCount--;
// downPressCount = 0;
Serial.println("asagi");
Serial.println(upPressCount);
// Serial.println(menuOption[upPressCount]);
}
eskiZaman = yeniZaman;
delay(100);

switch (upPressCount) // sayaca göre switch kodunu çalıştır
{
case -1: // sayaca 1 ise
    Serial.println("UKRAINE");
    upPressCount=6;
    break;
case 0: // sayaca 1 ise
    display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(10,0);
    display.print(" GERMANY");
    display.display();
    // delay(2000);

    if (upPressCount==0){
        switch (leftPressCount) // sayaca göre switch kodunu çalıştır
        {
        case -1:
            leftPressCount=0;
            display.print(" 16E");
            display.setTextSize(2);
display.setTextColor(WHITE);
```

```

display.setCursor(20,5);

display.display();

break;

case 0: // sayaca 1 ise

display.print(" 16E");

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(20,20);

display.display();

Serial.println(F("$GPGGA,125140.724,5149.251,N,01431.435,E,1,12,1.0,0.0,M,0.0,M,,*66"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125140.724,A,5149.251,N,01431.435,E,252458.4,270.0,201221,000.0,W*4
D")); // ekrana cümleyi yaz

break;

case 1: // sayaca 1 ise

display.print(" 12E");

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(20,20);

display.display();

Serial.println(F("$GPGGA,125141.724,5149.251,N,01238.057,E,1,12,1.0,0.0,M,0.0,M,,*68"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125141.724,A,5149.251,N,01238.057,E,322131.6,266.4,201221,000.0,W*4
E"));

break; // swtich den çık

case 2: // sayaca 2 ise

display.println(" 10E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(30,20);

```



```

display.display();

Serial.println(F("$GPGGA,125142.724,5140.267,N,01014.355,E,1,12,1.0,0.0,M,0.0,M,,*6A"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125142.724,A,5140.267,N,01014.355,E,237818.8,265.5,201221,000.0,W*47"));

break;// swtich den çık

case 3: // sayaca 3 ise

display.print(" 8E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(20,20);

display.display();

Serial.println(F("$GPGGA,125143.724,5132.074,N,00828.887,E,1,12,1.0,0.0,M,0.0,M,,*6C"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125143.724,A,5132.074,N,00828.887,E,254524.8,264.5,201221,000.0,W*47"));

break;// swtich den çık

case 4: // sayaca 5 ise

display.print(" 6E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display();

Serial.println(F("$GPGGA,125144.724,5121.386,N,00636.826,E,1,12,1.0,0.0,M,0.0,M,,*6D"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125144.724,A,5121.386,N,00636.826,E,254524.8,264.5,201221,000.0,W*46"));

break;// swtich den çık

```

```
case 5 : // sayaca başka bir değer ise
leftPressCount=4;
display.print(" 6E");
display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(20,20);
display.display();
}
display.clearDisplay();
break;
}
case 1: // sayaca 1 ise

display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(10,0);
display.print(" HOLLAND ");
display.display();
if (upPressCount==1){
    switch (leftPressCount) // sayaca göre switch kodunu çalıştır
{
    case -1:
        leftPressCount=0;
        display.print(" 7E"); // ekrana cümleyi yaz
        display.setTextSize(2);
        display.setTextColor(WHITE);
        display.setCursor(40,40);
        display.display();

        break;
```

```

    case 0: // sayaca 1 ise

    display.print(" 7E"); // ekrana cümleyi yaz

    display.setTextSize(2);

    display.setTextColor(WHITE);

    display.setCursor(40,40);

    display.display();

    Serial.println(F("$GPGGA,132229.945,5208.643,N,00658.975,E,1,12,1.0,0.0,M,0.0,M,,*61"));

    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,132229.945,A,5208.643,N,00658.975,E,183761.4,268.9,201221,000.0,W*4
C"));

    break;

    case 1: // sayaca 1 ise

    display.print(" 5E"); // ekrana cümleyi yaz

    display.setTextSize(2);

    display.setTextColor(WHITE);

    display.setCursor(40,40);

    display.display();

    Serial.println(F("$GPGGA,132230.945,5207.024,N,00535.918,E,1,12,1.0,0.0,M,0.0,M,,*62"));

    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,132230.945,A,5207.024,N,00535.918,E,172559.6,267.6,201221,000.0,W*4
A"));

    break; // swtich den çık

    case 2: // sayaca 2 ise

    display.print(" 3E"); // ekrana cümleyi yaz

    display.setTextSize(2);

    display.setTextColor(WHITE);

    display.setCursor(40,40);

    display.display();

    Serial.println(F("$GPGGA,132231.945,5203.782,N,00418.135,E,1,12,1.0,0.0,M,0.0,M,,*65"));

```

```
Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```

```
Serial.println(F("$GPRMC,132231.945,A,5203.782,N,00418.135,E,172559.6,267.6,201221,000.0,W*4D"));
```

```
break;// swtich den çık
```

```
default : // sayaca başka bir değer ise
```

```
leftPressCount=2;
```

```
display.print(" 3E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display(); // ekrana cümleyi yaz
```

```
}
```

```
display.clearDisplay();
```

```
break; // swtich den çık
```

```
}
```

```
case 2: // sayaca 2 ise
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(10,0);
```

```
display.print(" SPAIN ");
```

```
display.display();
```

```
if (upPressCount==2){
```

```
switch (leftPressCount) // sayaca göre switch kodunu çalıştır
```

```
{
```

```
case -1:
```

```
leftPressCount=0;
```

```
display.print(" 3E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display();

break;

case 0: // sayaca 1 ise

display.print(" 3E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display();

Serial.println(F("$GPGGA,054549.614,4125.444,N,00242.158,E,1,12,1.0,0.0,M,0.0,M,,*6A"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,054549.614,A,4125.444,N,00242.158,E,748274.4,269.2,211221,000.0,W*4C")); // ekrana cümleyi yaz

break;

case 1: // sayaca 1 ise

display.print(" 1W"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

Serial.println(F("$GPGGA,054550.614,4121.485,N,00154.697,W,1,12,1.0,0.0,M,0.0,M,,*79"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,054550.614,A,4121.485,N,00154.697,W,491991.7,269.7,211221,000.0,W*5E"));

break; // swtich den çık

case 2: // sayaca 2 ise

display.print(" 5W"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);
```

```

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

Serial.println(F("$GPGGA,054551.614,4120.495,N,00456.631,W,1,12,1.0,0.0,M,0.0,M,,*73"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,054551.614,A,4120.495,N,00456.631,W,629893.9,279.8,211221,000.0,W*56"));

break;// swtich den çık

case 3: // sayaca 3 ise

display.print(" 9W"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

Serial.println(F("$GPGGA,054552.614,4159.908,N,00844.707,W,1,12,1.0,0.0,M,0.0,M,,*7C"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,054552.614,A,4159.908,N,00844.707,W,629893.9,279.8,211221,000.0,W*59"));

break;// swtich den çık

default :

display.print(" 9W"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display();

leftPressCount=3;

}

display.clearDisplay();

break;// swtich den çık

}

```

```

case 3: // sayaca 3 ise
    display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(10,0);
    display.print(" RUSSIAN ");
    display.display();
    if (upPressCount==3){
        switch (leftPressCount) // sayaca göre switch kodunu çalıştır
{
    case -1:
        leftPressCount=0;
        display.print(" 120E"); // ekrana cümleyi yaz
        display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
        display.display(); // ekrana cümleyi yaz
        break;
    case 0: // sayaca 1 ise
        display.print(" 120E"); // ekrana cümleyi yaz
        display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
        display.display();
        Serial.println(F("$GPGGA,052841.361,5936.628,N,12302.813,E,1,12,1.0,0.0,M,0.0,M,,*6D"));
        Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,052841.361,A,5936.628,N,12302.813,E,2096997.4,271.2,211221,000.0,W*
72")); // ekrana cümleyi yaz
        break;
    case 1: // sayaca 1 ise
        display.print(" 102E"); // ekrana cümleyi yaz
        display.setTextSize(2);

```

```
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
    Serial.println(F("$GPGGA,052842.361,5957.868,N,10342.656,E,1,12,1.0,0.0,M,0.0,M,,*6A"));
    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,052842.361,A,5957.868,N,10342.656,E,2178502.6,270.1,211221,000.0,W*74"));

    break; // swtich den çık

case 2: // sayaca 2 ise
    display.print(" 82E"); // ekrana cümleyi yaz
    display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
    Serial.println(F("$GPGGA,052843.361,5957.868,N,08329.766,E,1,12,1.0,0.0,M,0.0,M,,*6D"));
    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,052843.361,A,5957.868,N,08329.766,E,2187969.4,269.4,211221,000.0,W*7D"));

    break;// swtich den çık

case 3: // sayaca 3 ise
    display.print(" 63E"); // ekrana cümleyi yaz
    display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
    Serial.println(F("$GPGGA,052844.361,5941.959,N,06316.875,E,1,12,1.0,0.0,M,0.0,M,,*61"));
    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```



```
Serial.println(F("$GPRMC,052844.361,A,5941.959,N,06316.875,E,2174566.3,268.8,211221,000.0,W*74"));
```

```
break;// swtich den çık
```

```
case 4: // sayaca 5 ise
```

```
display.print(" 43E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display(); // ekrana cümleyi yaz
```

```
Serial.println(F("$GPGGA,052845.361,5915.161,N,04325.078,E,1,12,1.0,0.0,M,0.0,M,,*65"));
```

```
Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```

```
Serial.println(F("$GPRMC,052845.361,A,5915.161,N,04325.078,E,1677584.7,268.7,211221,000.0,W*70"));
```

```
break;// swtich den çık
```

```
case 5 : // sayaca başka bir değer ise
```

```
display.print(" 23E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display();
```

```
Serial.println(F("$GPGGA,052846.361,5853.466,N,02818.047,E,1,12,1.0,0.0,M,0.0,M,,*68"));
```

```
Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```

```
Serial.println(F("$GPRMC,052846.361,A,5853.466,N,02818.047,E,1677584.7,268.7,211221,000.0,W*7D"));
```

```
case 6:
```

```
display.print(" 23E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display();
leftPressCount=5;
}
display.clearDisplay();
    break;// swtich den çık
}
case 4: // sayaca 5 ise
//    display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(10,0);
    display.print(" DENMARK");
    display.display();
    if (upPressCount==4){
        switch (leftPressCount) // sayaca göre switch kodunu çalıştır
        {
            case -1:
                leftPressCount=0;
                display.print(" 13E"); // ekrana cümleyi yaz
                display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
                break;
            case 0: // sayaca 1 ise
                display.print(" 13E"); // ekrana cümleyi yaz
                display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display();
```

```

Serial.println("$GPGGA,061732.081,5535.349,N,01255.195,E,1,12,1.0,0.0,M,0.0,M,,*60");

Serial.println("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30");

Serial.println("$GPRMC,061732.081,A,5535.349,N,01255.195,E,310586.0,266.9,211221,000.0,W*45"
); // ekrana cümleyi yaz

    break;

case 1: // sayaca 1 ise

    display.print(" 10E"); // ekrana cümleyi yaz

    display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

    Serial.println("$GPGGA,061733.081,5527.135,N,01023.584,E,1,12,1.0,0.0,M,0.0,M,,*6C");

    Serial.println("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30");

Serial.println("$GPRMC,061733.081,A,5527.135,N,01023.584,E,301887.8,272.1,211221,000.0,W*40"
);

    break; // swtich den çık

case 2: // sayaca 2 ise

    display.print(" 8E"); // ekrana cümleyi yaz

    display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

    Serial.println("$GPGGA,061734.081,5532.365,N,00755.928,E,1,12,1.0,0.0,M,0.0,M,,*65");

    Serial.println("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30");

Serial.println("$GPRMC,061734.081,A,5532.365,N,00755.928,E,301887.8,272.1,211221,000.0,W*49"
);

    break;// swtich den çık

default :

```

```
display.print(" 8E"); // ekrana cümleyi yaz
display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display();
leftPressCount=2;
}
display.clearDisplay();
break;
}
case 5: // sayaca 1 ise
display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(10,0);
display.print(" FRANCE");
display.display();
if (upPressCount==5){
switch (leftPressCount) // sayaca göre switch kodunu çalıştır
{
case -1:
leftPressCount=0;
display.print(" 8E"); // ekrana cümleyi yaz
display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
break;
case 0: // sayaca 1 ise
display.print(" 8E"); // ekrana cümleyi yaz
display.setTextSize(2);
display.setTextColor(WHITE);
```

```

display.setCursor(40,40);

display.display();

Serial.println(F("$GPGGA,125140.724,5149.251,N,01431.435,E,1,12,1.0,0.0,M,0.0,M,,*66"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125140.724,A,5149.251,N,01431.435,E,252458.4,270.0,201221,000.0,W*4
D")); // ekrana cümleyi yaz

break;

case 1: // sayaca 1 ise

display.print(" 4E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

Serial.println(F("$GPGGA,125141.724,5149.251,N,01238.057,E,1,12,1.0,0.0,M,0.0,M,,*68"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125141.724,A,5149.251,N,01238.057,E,322131.6,266.4,201221,000.0,W*4
E"));

break; // swtich den çık

case 2: // sayaca 2 ise

display.print(" 0E"); // ekrana cümleyi yaz

display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

Serial.println(F("$GPGGA,125142.724,5140.267,N,01014.355,E,1,12,1.0,0.0,M,0.0,M,,*6A"));

Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125142.724,A,5140.267,N,01014.355,E,237818.8,265.5,201221,000.0,W*4
7"));

break; // swtich den çık

```

```

case 3: // sayaca 3 ise

    display.print(" 4W"); // ekrana cümleyi yaz

    display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz

    Serial.println(F("$GPGGA,125143.724,5132.074,N,00828.887,E,1,12,1.0,0.0,M,0.0,M,,*6C"));

    Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

Serial.println(F("$GPRMC,125143.724,A,5132.074,N,00828.887,E,254524.8,264.5,201221,000.0,W*47"));

    break;// swtich den çık

case 4 : // sayaca başka bir değer ise

leftPressCount=3;

    display.print(" 4W"); // ekrana cümleyi yaz

    display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(40,40);

display.display(); // ekrana cümleyi yaz
}

display.clearDisplay();

    break;

}

case 6: // sayaca 1 ise

    display.setTextSize(2);

display.setTextColor(WHITE);

display.setCursor(10,0);

    display.print(" UKRAINE");

    display.display();

// display.print("UKRAINE"); // ekrana cümleyi yaz

    if (upPressCount==6){

```

```

        switch (leftPressCount) // sayaca göre switch kodunu çalıştır
    {
        case -1:
            leftPressCount=0;

            display.print(" 40E"); // ekrana cümleyi yaz

            display.setTextSize(2);

            display.setTextColor(WHITE);

            display.setCursor(40,40);

            display.display(); // ekrana cümleyi yaz

            break;

            case 0: // sayaca 1 ise

                display.print(" 40E"); // ekrana cümleyi yaz

                display.setTextSize(2);

                display.setTextColor(WHITE);

                display.setCursor(40,40);

                display.display();

                Serial.println(F("$GPGGA,075347.716,4920.304,N,03954.628,E,1,12,1.0,0.0,M,0.0,M,,*63"));

                Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

                Serial.println(F("$GPRMC,075347.716,A,4920.304,N,03954.628,E,714756.8,270.8,211221,000.0,W*47")); // ekrana cümleyi yaz

                break;

            case 1: // sayaca 1 ise

                display.print(" 35E"); // ekrana cümleyi yaz

                display.setTextSize(2);

                display.setTextColor(WHITE);

                display.setCursor(40,40);

                display.display(); // ekrana cümleyi yaz

                Serial.println(F("$GPGGA,075348.716,4924.541,N,03449.920,E,1,12,1.0,0.0,M,0.0,M,,*69"));

                Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));

```

```
Serial.println(F("$GPRMC,075348.716,A,4924.541,N,03449.920,E,692835.5,268.7,211221,000.0,W*43"));
```

```
break; // swtich den çık
```

```
case 2: // sayaca 2 ise
```

```
display.print(" 30E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display(); // ekrana cümleyi yaz
```

```
Serial.println(F("$GPGGA,075349.716,4917.667,N,02954.814,E,1,12,1.0,0.0,M,0.0,M,,*69"));
```

```
Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```

```
Serial.println(F("$GPRMC,075349.716,A,4917.667,N,02954.814,E,993652.1,268.1,211221,000.0,W*40"));
```

```
break; // swtich den çık
```

```
case 3: // sayaca 3 ise
```

```
display.print(" 23E"); // ekrana cümleyi yaz
```

```
display.setTextSize(2);
```

```
display.setTextColor(WHITE);
```

```
display.setCursor(40,40);
```

```
display.display(); // ekrana cümleyi yaz
```

```
Serial.println(F("$GPGGA,075350.716,4903.870,N,02253.235,E,1,12,1.0,0.0,M,0.0,M,,*69"));
```

```
Serial.println(F("$GPGSA,A,3,01,02,03,04,05,06,07,08,09,10,11,12,1.0,1.0,1.0*30"));
```

```
Serial.println(F("$GPRMC,075350.716,A,4903.870,N,02253.235,E,993652.1,268.1,211221,000.0,W*40"));
```

```
break; // swtich den çık
```

```
case 4 : // sayaca başka bir değer ise
```

```
leftPressCount=3;
```

```
display.print(" 23E"); // ekrana cümleyi yaz
```



```
        display.setTextSize(2);
display.setTextColor(WHITE);
display.setCursor(40,40);
display.display(); // ekrana cümleyi yaz
    }
display.clearDisplay();
    break;
    }
default: // sayaca başka bir değer ise
upPressCount=0;
    Serial.println("BASA DON"); // ekrana cümleyi yaz
    }
}

}
```