

ПМГ „Академик Боян Петканчин“ – Хасково

НП „Обучение за ИТ кариера“

Документация

Модул 8: Въведение в операционни системи и
вградени системи

Тема: *The flags of the world*

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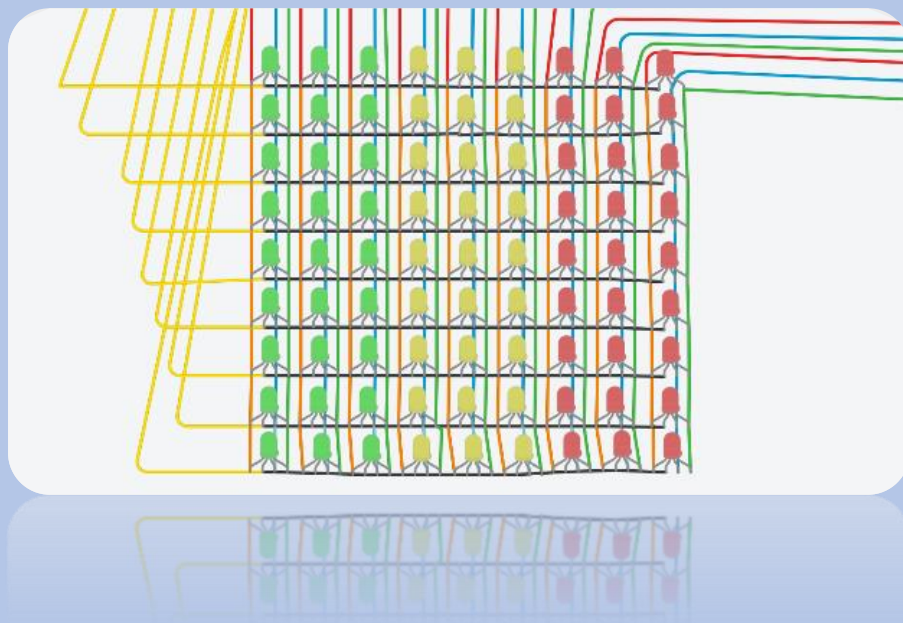
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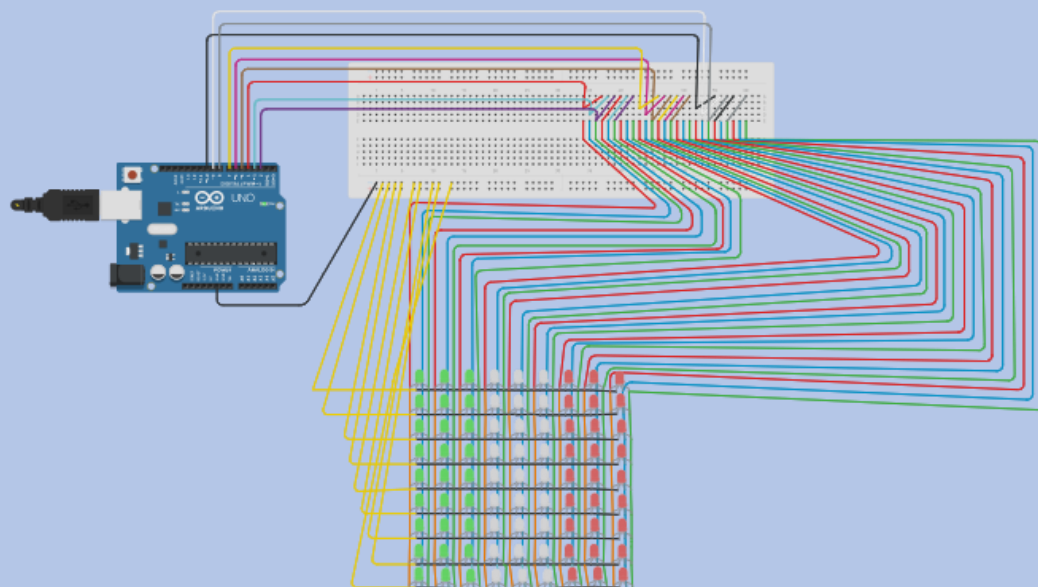


Какво представлява проекта?

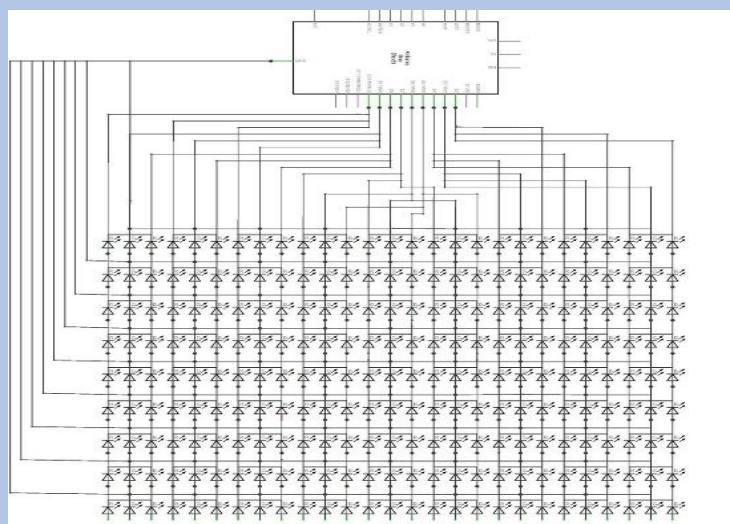
Проектът представлява матрица от RGB LED лампички, в която се изобразяват 7 вида различни знамена – френско, италианско, румънско, ирландско, малийско, нигерийско и гвинейско знаме.



Схеми



Електрическа схема



СПИСЪК ОТ КОМПОНЕНТИ

- *Arduino Uno R3 – 1*
- *LED RGB – 81*

Сорс код

```
//Цветовете за последните 3 колони  
#define RED_3 10  
#define BLUE_3 9  
#define GREEN_3 8
```

```
//Цветовете за средните 3 колони  
#define RED_2 7  
#define BLUE_2 6  
#define GREEN_2 5
```

```
//Цветовете за първите 3 колони  
#define RED 4  
#define BLUE 3  
#define GREEN 2
```

```
void setup() {  
  
  pinMode(RED, OUTPUT);  
  pinMode(BLUE, OUTPUT);  
  pinMode(GREEN, OUTPUT);
```

```
pinMode(RED_2, OUTPUT);  
pinMode(BLUE_2, OUTPUT);  
pinMode(GREEN_2, OUTPUT);  
pinMode(RED_3, OUTPUT);  
pinMode(BLUE_3, OUTPUT);  
pinMode(GREEN_3, OUTPUT);
```

```
}  
void White(){
```

```
digitalWrite(RED, HIGH);
```

```
digitalWrite(GREEN, HIGH);
```

```
digitalWrite(BLUE, HIGH);  
digitalWrite(RED_2, HIGH);  
digitalWrite(GREEN_2, HIGH);
```

```
digitalWrite(BLUE_2, HIGH);  
digitalWrite(RED_3, HIGH);
```

```
digitalWrite(BLUE_3, HIGH);  
digitalWrite(GREEN_3, HIGH);  
delay(1000);  
digitalWrite(RED, LOW);
```

```
digitalWrite(GREEN, LOW);
```

```
digitalWrite(BLUE, LOW);  
digitalWrite(RED_2, LOW);  
digitalWrite(GREEN_2, LOW);
```

```
digitalWrite(BLUE_2, LOW);  
digitalWrite(RED_3, LOW);
```

```
digitalWrite(BLUE_3, LOW);  
digitalWrite(GREEN_3, LOW);
```

```
}
```

```
void France(){
```

```
    digitalWrite(BLUE, HIGH);  
    digitalWrite(RED_2, HIGH);  
    digitalWrite(BLUE_2, HIGH);  
    digitalWrite(GREEN_2, HIGH);  
    digitalWrite(RED_3, HIGH);  
    delay(1000);  
    digitalWrite(BLUE, LOW);  
    digitalWrite(RED_2, LOW);  
    digitalWrite(BLUE_2, LOW);  
    digitalWrite(GREEN_2, LOW);  
    digitalWrite(RED_3, LOW);
```

```
}
```

```
void Italy(){
```

```
    digitalWrite(GREEN, HIGH);  
    digitalWrite(RED_2, HIGH);  
    digitalWrite(BLUE_2, HIGH);  
    digitalWrite(GREEN_2, HIGH);  
    digitalWrite(RED_3, HIGH);  
    delay(1000);  
    digitalWrite(GREEN, LOW);  
    digitalWrite(RED_2, LOW);  
    digitalWrite(BLUE_2, LOW);  
    digitalWrite(GREEN_2, LOW);  
    digitalWrite(RED_3, LOW);
```

```
}
```

```
void Romania(){
```

```
    digitalWrite(BLUE, HIGH);  
    digitalWrite(RED_2, HIGH);
```



```
digitalWrite(GREEN_2, HIGH);
digitalWrite(RED_3, HIGH);
delay(1000);
digitalWrite(BLUE, LOW);
digitalWrite(RED_2, LOW);
digitalWrite(GREEN_2, LOW);
digitalWrite(RED_3, LOW);

}
void Irlandia(){
```

```
digitalWrite(GREEN, HIGH);
digitalWrite(RED_2, HIGH);
digitalWrite(BLUE_2, HIGH);
digitalWrite(GREEN_2, HIGH);
digitalWrite(RED_3, HIGH);
digitalWrite(GREEN_3, HIGH);
delay(1000);
digitalWrite(GREEN, LOW);
digitalWrite(RED_2, LOW);
digitalWrite(BLUE_2, LOW);
digitalWrite(GREEN_2, LOW);
digitalWrite(RED_3, LOW);
digitalWrite(GREEN_3, LOW);

}
void Mali(){
```

```
digitalWrite(GREEN, HIGH);
digitalWrite(RED_2, HIGH);
digitalWrite(GREEN_2, HIGH);
digitalWrite(RED_3, HIGH);
delay(1000);
digitalWrite(GREEN, LOW);
digitalWrite(RED_2, LOW);
digitalWrite(GREEN_2, LOW);
digitalWrite(RED_3, LOW);
```



```
}  
void Nigeria(){  
  
    digitalWrite(GREEN, HIGH);  
    digitalWrite(RED_2, HIGH);  
    digitalWrite(BLUE_2, HIGH);  
    digitalWrite(GREEN_2, HIGH);  
    digitalWrite(GREEN_3, HIGH);  
    delay(1000);  
    digitalWrite(GREEN, LOW);  
    digitalWrite(RED_2, LOW);  
    digitalWrite(BLUE_2, LOW);  
    digitalWrite(GREEN_2, LOW);  
    digitalWrite(GREEN_3, LOW);  
  
}
```

```
void Gvinea(){  
  
    digitalWrite(RED, HIGH);  
    digitalWrite(RED_2, HIGH);  
    digitalWrite(GREEN_2, HIGH);  
    digitalWrite(GREEN_3, HIGH);  
    delay(1000);  
    digitalWrite(RED, LOW);  
    digitalWrite(RED_2, LOW);  
    digitalWrite(GREEN_2, LOW);  
    digitalWrite(GREEN_3, LOW);  
  
}
```

```
}  
  
void loop() {  
  
    France();  
    White();  
    Italy();  
    White();  
  
}
```

```
Romania();  
White();  
Irlandia();  
White();  
Mali();  
White();  
Nigeria();  
White();  
Gvineia();  
White();
```

```
}
```



Заклучение

Чрез проекта ми може да се запознаете с различните знамена по света и при желание могат да се добавят и нови. По този начин може да научите различните знамена на държавите по света.

