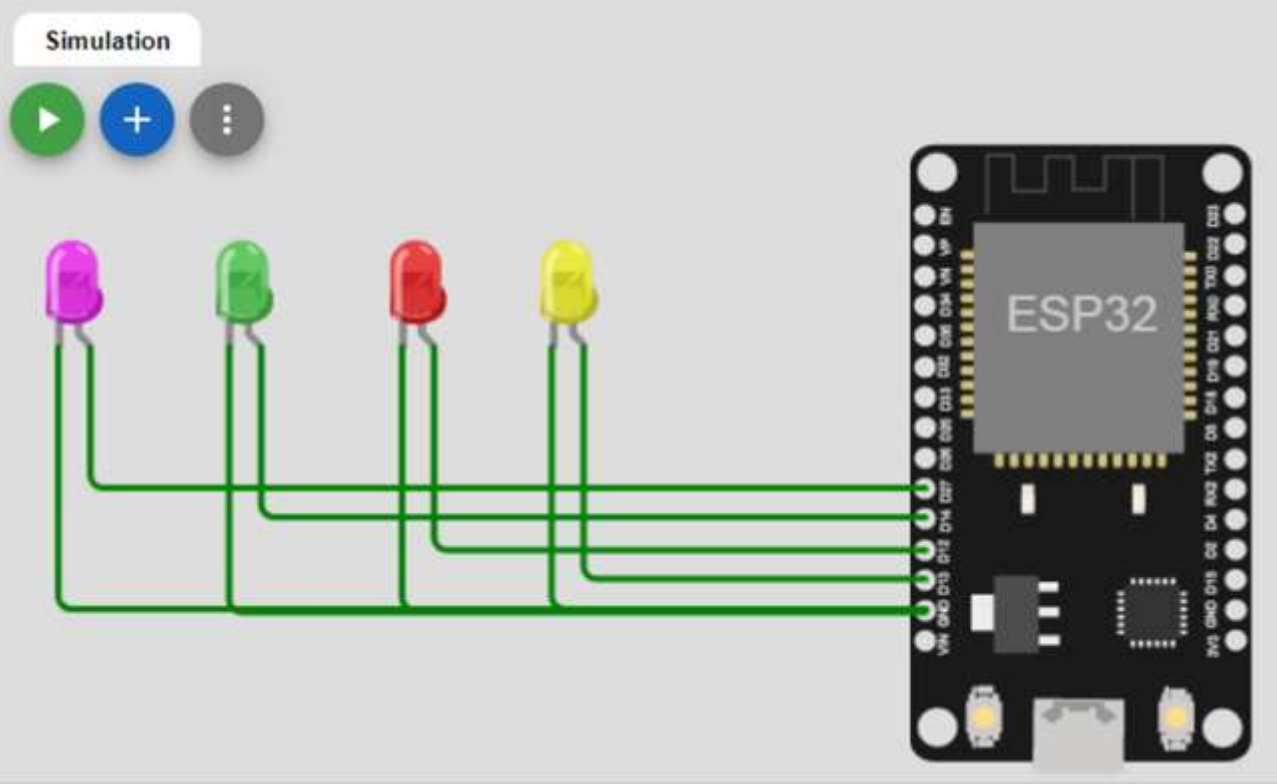
HOME WORKE 1

Design the electronic circuit and write programing code by use ESP32 controller to operate 4 leds indicates the direction of robot movement (violet=right, green=forward, red=stop, yellow=left) by accessing the controller via a web page.

Solution:

The electronic circuit



The programming code

```
#include <WiFi.h>
#include <HTTPClient.h>
const char* ssid = "Wokwi-GUEST";
const char* password = "";
const String url = "https://s-m.com.sa/f.html";
String payload = "";
void setup() {
  Serial.begin(115200);
  Serial.println("Hello, ESP32!");
  Serial.println("traffic light indicates the direction of robot movement
(violet=right, green=forward, red=stop, yellow=left)");
  WiFi.begin(ssid, password);
  pinMode(27, OUTPUT);
  pinMode(14, OUTPUT);
  pinMode(12, OUTPUT);
  pinMode(13, OUTPUT);
  Serial.print("Connecting to WiFi");
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }

  Serial.print("OK! IP=");
  Serial.println(WiFi.localIP());

  Serial.print("Fetching " + url + "... ");


}

void loop(){
  HTTPClient http;
  http.begin(url);
  int httpResponseCode = http.GET();
  if (httpResponseCode > 0) {
    Serial.print("HTTP ");
    Serial.println(httpResponseCode);
    payload = http.getString();
    Serial.println();
    Serial.println(payload);
    if( payload == "forward" ){
      digitalWrite(14, HIGH);
    }
    if( payload == "stop" ){
      digitalWrite(12, HIGH);
    }
    if( payload == "left" ){
      digitalWrite(27, HIGH);
    }
    if( payload == "right" ){
```

```
        digitalWrite(13, HIGH);
      }
    }
    else {
     Serial.print("Error code: ");
     Serial.println(httpResponseCode);
     Serial.println(":-(");
    }

}
```

Execution in Simulation