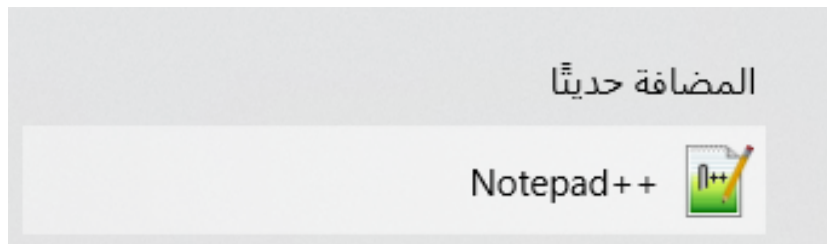


IOT-stt-web-page

1- i used notepad++ to programm



2-wrote the html code

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4 <meta charset="utf-8">
5 <meta name="viewport" content="initial-scale=1.0, maximum-scale=1.0, user-scalable=1">
6 <title>Home</title>
7 <link rel="stylesheet" type="text/css" href="C:\Users\huawei\Documents\tts file\tts.css">
8 </head>
9 <body>
10
11 <div class="voice_to_text">
12 <h1>Speech to Text Converter</h1>
13 <input name="" id="convert_text"></input>
14 <button class="b2" id="click_to_record">Speech To Text</button>
15 <div><button class="b1" id="c">connect</button></div>
16
17
18
19 </div>
20
21
22
23 <script type="text/javascript" src="C:\Users\huawei\Documents\tts file\tts.js"></script>
24
```

3-wrote CSS (for coloring and styling)

```
*,:after,:before{
  -webkit-box-sizing: border-box;
  -moz-box-sizing: border-box;
  -ms-box-sizing: border-box;
  box-sizing: border-box;
}

body{
  font-family: arial;
  font-size: 16px;
  margin: 0;
  background: linear-gradient(to right bottom, #FFC0CB, #FF5A77);
  color: #000;

  display: flex;
  align-items: center;
  justify-content: center;
  min-height: 100vh;
}

.voice_to_text{
  width: 600px;
  text-align: center;
}

h1{
  color: #fff;
  font-size: 50px;
}

#convert_text{
  width: 100%;
  height: 200px;
  border-radius: 10px;
  resize: none;
  padding: 10px;
  font-size: 20px;
  margin-bottom: 10px;
}
```

```
button{
  padding: 12px 20px;
  background: #FF4162;
  border: 0;
  color: #fff;
  font-size: 18px;
  cursor: pointer;
  border-radius: 5px;
}
```

4-wrote JavaScript for STT function and connecting to the web serial

```
1 click_to_record.addEventListener('click',function(){
2   var speech = true;
3   window.SpeechRecognition = window.webkitSpeechRecognition;
4
5   const recognition = new SpeechRecognition();
6   recognition.interimResults = true;
7
8   recognition.addEventListener('result', e => {
9     const transcript = Array.from(e.results)
10      .map(result => result[0])
11      .map(result => result.transcript)
12      .join('')
13
14     document.getElementById("convert_text").innerHTML = transcript;
15     console.log(transcript);
16   });
17
18   if (speech == true) {
19     recognition.start();
20   }
21 }
22 }
23
24
```

5-connected the web serial using the codes that in the(<https://web.dev/serial/>) documenation (to connect the hardware device to the web) using javaScript

```
<script document.querySelector('b1').addEventListener('click', async () => {  
  // Prompt user to select any serial port.  
  const port = await navigator.serial.requestPort();  
  await port.open({ baudRate: 9600 });  
  const reader = port.readable.getReader();  
  
  const textDecoder = new TextDecoderStream();  
  const readableStreamClosed = port.readable.pipeTo(textDecoder.writable);  
  const reader = textDecoder.readable.getReader();  
  
  // Listen to data coming from the serial device.  
  while (true) {  
    const { value, done } = await reader.read();  
    if (done) {  
      // Allow the serial port to be closed later.  
      reader.releaseLock();  
      break;  
    }  
    // value is a string.  
    console.log(value);  
  }  
});
```

6-wrote a c++ code on arduino IDE



```
void setup() {  
  serial.begin(9600);  
  pinMode(13, OUTPUT);  
  
}  
  
void loop() {  
  String data=Serial.readString();  
  if (data.indexOf("right")>-1)  
  {  
    digitalWrite(13,HIGH);  
    delay(2000);  
    Serial.println(2);  
    delay(2000);  
    digitalWrite(13,LOW);  
    delay(1000);  
  
  }  
  
  else if(data.indexOf("left")>-1){  
    digitalWrite(13,HIGH);  
    Serial.println(1);  
  }  
  else{  
    digitalWrite(13,LOW);  
    Serial.println(0);  
  
  }  
  
}
```