Web Technology

Gede Andra Rizqy Wijaya

2215101024

Introduction

Web programming with HTML, CSS, and Javascript are fundamental in current era. Most of the website in the internet right now is an interactive website that is made by using the fundamental of HTML, CSS and Javascript. Now in Web Technology course, we are going to learn how to make responsice website, with the main product will be a website containing tools for searching Fibonacci sequence and Volume calculation.

Purpose

The purpose is to make a website that contain two tools, such as :

1. **Fibonacci Sequence** : Fibonacci sequence is a sequence of number where each number is a sum of the two preceding number. Inside of the website, the user will be given a form that will ask the user to input a number for the Fibonacci sequence. The tools later will find the correct value of the Fibonacci sequence that the user want.
2. **Volume Calculation** : Measurement of a space for 3-dimensional object. The formula of each volume is different for each object. With this tools, user can choose what kind of shape they want to measure. Each shape have it own measurement variable, that the user need to input for the tools to work.

Method

The website use HTML and CSS for the layout, and also use Javascript for adding interactivity and behaviour in the website. My website is divided into Head and Body part. In head part contain meta tag and link for referencing for the style the website will use.


```html
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <link rel="stylesheet" href="style.css">
    <link rel="preconnect" href="https://fonts.googleapis.com">
    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
    <link href="https://fonts.googleapis.com/css2?family=Ubuntu:wght@300;700&display=swap" rel="stylesheet">
    <title>Web Technology   </title>
</head>
```

Figure 1 <head> tag with all the reference

Under the head tag, there is the body tag that contain the content of the website. The body tag is divided again with a bunch of div tag that is going to make a container for each tool and element, making the website looking more clean and tidy

Figure 2 example of div

Figure 3 example of div

Inside of some tag contains id to label and call them for styling later. Inside of some div also contain the tag <form>. With this tag the website can take an input for the user. Inside of tag <form> also contain tag <label> for labelling the element, tag <input> to take input from user, and tag<button> to make a button. Other than that, there also attribute that is being used to call function from the Javascript script, for example the onclick attribute inside of button tag is used to call CalcFibonacci() function from the Javascript script. Lastly on the bottom of the body tag, there is a script tag to call the script that is being used by the website.

Other that html script, there also style.css script. In style.css contain all the magic happen. It is used to make the website have more personality. For example to make div with id fibonacci, we can customise it in style.css script. Making the div have a certain ratio of widht, margin and padding. With CSS, we can design a website as we like it.

```css
1   #Fibonacci{
2       background-color: #5E6572;
3       padding: 20px;
4       margin-right: auto;
5       margin-left: auto;
6       width: 70%;
7       margin-bottom: 30px;
8       border-radius: 20px;
9       font-family: 'Ubuntu', sans-serif;
10  }
```

Figure 4 CSS for fibonacci div

Lastly, we have Javascript to make the website interactable with the user. Inside of Javascript script, we are going to make function that will later be called by the attribute of the tags that used it. For example, the CalcFibonacci() function is made inside of Javascript script and called inside of button tag with the attribute onclick().

```javascript
1   function CalcFibonacci(){
2       const n = parseInt(document.getElementById("Fibo-input").value);
3       if(!isNaN(n) && n >= 0){
4           const result = fibonacci(n);
5           document.getElementById("Fibo-result").textContent = result;
6       }
7       else{
8           alert("Input a positive number!");
9       }
10  }
11
12  function fibonacci(n){
13      if(n <= 1){
14          return n;
15      }
16
17      let prevfibo = 0;
18      let currentfibo = 1;
19
20      for (let i = 2; i <= n; i++){
21          const temp = currentfibo;
22          currentfibo += prevfibo;
23          prevfibo = temp;
24      }
25      return currentfibo;
26  }
```

Figure 5 Javascript function

Conclusion

Web programming is an important aspect in current era. The trend of having website for tools and application is growing bigger as the times go on, making the needs to learn HTML, CSS, and Javascript keep increasing. With understanding the tools of web programming, we can keep up with the trend and help improving the needs of future generation with a lot of development from ourselves.

Link

Github : https://github.com/gdandra/WebApps

Preview : https://gdandra.github.io/WebApps/?