# Unit-1

**1)Create a webpage to print a paragraph with 4 – 5 sentences. Each sentence should be in a different font and color.**

**Program:**

```html
<!DOCTYPE html>
<html lang="en">
<head><title>Diffrent Paras</title><style>
    p{font-size: x-large;}
    .sentence1 { font-family: Arial, sans-serif; color: red; }
    .sentence2 { font-family: "Times New Roman", serif; color: blue; }
    .sentence3 { font-family: "Courier New", monospace; color: green; }
    .sentence4 { font-family: "Georgia", serif; color: purple; }
    .sentence5 { font-family: "Verdana", sans-serif; color: orange; }
  </style>
</head>
<body>
  <p>
    <p class="sentence1">This is the first sentence...</p>
    <p class="sentence2">Here is the second sentence...</p>
    <p class="sentence3">The is the third sentence...</p>
    <p class="sentence4">This is the fourth sentence...</p>
    <p class="sentence5">Fifth sentence...</p>
  </p></body></html>
```

**Output:**

This is the first sentence...

Here is the second sentence...

The is the third sentence...

This is the fourth sentence...

Fifth sentence...

## 2)From a design for nav bar

## Program:

```
<!DOCTYPE html>

<html lang="en">

<head><title>Side Navbar</title>

    <style>body {margin: 0;background-color: #f4f4f4;}

        .sidenav {height: 100vh;width: 250px;background-color: #fff;

            padding: 20px;position: fixed;right: 0;top: 0;

            box-shadow: 2px 0 5px rgba(0, 0, 0, 0.1);

            transform: translateX(100%);

            transition: transform 0.3s ease-in-out;

        }

        .sidenav.active transform: translateX(0);}

        .sidenav a {display: flex;padding: 12px 15px;

            text-decoration: none;

            font-size: 16px;color: #333;

            transition: 0.3s;border-radius: 5px;

            margin-bottom: 5px;

        }

        .sidenav a:hover {background-color: #e0f2f7;color: #007bff;}

        .sidenav a.active {background-color: #bbdefb;color: #007bff;}

        .menu {position: absolute;right: 20px;top: 20px;

            background-color: #007bff;padding: 8px;

            border-radius: 4px;cursor: pointer;

        }

        .menu img {width: 24px;height: 24px;}

        .close-btn {display: flex;justify-content: flex-end;

            cursor: pointer;

        }

        .content {padding: 20px;}

    </style>

</head>
```

```
<body>
  <div class="menu" onclick="toggleNav()"><img src="./images/menu.svg" alt="menu"/></div>
  <div class="sidenav" id="sidenav">
    <div class="close-btn" onclick="toggleNav()"><img src="./images/close.svg" alt="close" /></div>
    <a href="#" class="active">Home</a>
    <a href="#">About</a>
    <a href="#">Services</a>
    <a href="#">Videos</a>
    <a href="#">Contact</a>
    <a href="#">Subscribe</a>
  </div>
  <div class="content">
    <h2>This is a Side Navigation Bar</h2>
    <p>This is some content in this area....</p>
  </div>
  <script>
    function toggleNav() {
      document.getElementById("sidenav").classList.toggle("active");
    }
  </script></body></html>
```
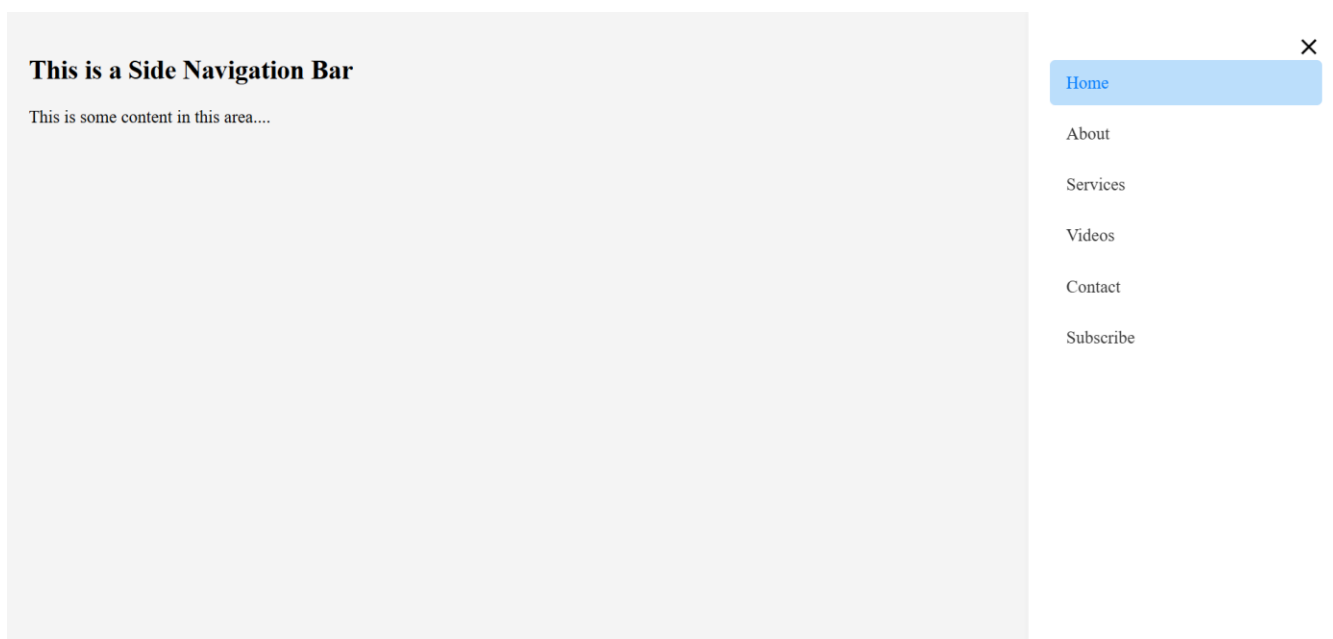
## Output:

# Unit -2

## 1)Write a function which checks number till the given input/parameter is odd or even

**Program:**

```html
<!DOCTYPE html>

<html lang="en">

<head><title>Odd Even</title></head>

<body>

   <h1 style="text-align: center;">EVEN-ODD Check</h1>

   <div style="text-align: center;">

      <input type="number" id="number" placeholder="Enter a number">

      <button onclick="check()">Check</button>

   </div>

   <div id="container" style="text-align: center;"></div>

   <script>

     function check() {

        let number = document.getElementById('number').value;

        let container = document.getElementById('container');

        container.innerHTML = "Given Number is:"+number;

        for(let i = 0; i < number; i++) {

           if(i % 2 == 0) {container.innerHTML += `<p>${i} is Even</p>`;

           } else {container.innerHTML += `<p>${i} is Odd</p>`;}}}

   </script>

</body>

</html>
```

## Output:

**EVEN-ODD Check**

| 3 | Check |

Given Number is:3

0 is Even

1 is Odd

2 is Even

**2)Implement a simple stopwatch that: Starts counting on a button click ,Stops when another button is clicked**

**Program:**

```html
<!DOCTYPE html><html lang="en"><head><title>Stop watch</title><style>
    .counter {display: flex; justify-content: center; margin-top: 20px;}
    .counter p {font-size: 30px;margin: 0 10px;}</style></head>
<body><h1 style="text-align: center;">Simple StopWatch</h1>
   <div style="text-align: center;"><button onclick="start()">Start</button>
    <button onclick="stop()">Stop</button>
    <button onclick="reset()">Reset</button></div>
   <div class="counter"><p id="minutes"></p><p id="seconds"></p><p id="milliseconds"></p></div>
   <script>let minutes = 0; let seconds = 0; let milliseconds = 0;isCounting = false;
    function start(){isCounting = true;
       setInterval(() => {if(!isCounting){return;}milliseconds++;
          if(milliseconds == 100){milliseconds = 0;seconds++;}
          if(seconds == 60){seconds = 0;minutes++;}
          document.getElementById('minutes').innerText = minutes;
          document.getElementById('seconds').innerText = seconds;
          document.getElementById('milliseconds').innerText = milliseconds;
       }, 10);}
    function stop(){isCounting = false; }
    function reset(){isCounting = false;minutes = 0;seconds = 0;milliseconds = 0;
       document.getElementById('minutes').innerText = minutes;
       document.getElementById('seconds').innerText = seconds;
       document.getElementById('milliseconds').innerText = milliseconds;}
   </script></body></html>
```

**Output:**

# Simple StopWatch

Start  Stop  Reset

0 m  8 s  46 ms

**3)Write a function which prints * for the numbers of times and rows provided**

```
*
**
***
****
*****
```

**Program:**

<!DOCTYPE html>

<html lang="en">

<head><title>Star Pattren</title></head>

<body><h1 style="text-align: center;">Star (*) Pattren</h1>

   <div style="display: flex; justify-content: center;">

      <input type="number" id="number" placeholder="Enter a number">

      <button onclick="Print()">Print</button></div>

   <div style="display: flex; justify-content: center;"><div id="pattren" ></div></div>

   <script>*function* Print() {

      *let* number = document.getElementById('number').value;

      *let* container = document.getElementById('pattren');

      for(*let* i = 1; i <= number; i++) {

         *let* str = '*'.repeat(i);

         container.innerHTML += `<p>${str}</p>`;}}

   </script>

</body>

</html>

**Output:**

# Star (*) Pattren

```
3              Print
        *

        **

        ***
```

**4) Create a method 'excludes' which excludes values from existing array and push to new array.**

**Program:**

<!DOCTYPE html>

<html lang="en">

<head><title>Exclude</title></head>

<body><h1 style="text-align: center;">Excluding Elements in arrays</h1>

   <div style="text-align: center;">

      <input type="number" id="number" placeholder="Enter a number to push into array">

      <input type="button" value="Push" onclick="push()"></div>

   <div style="margin-top: 20px; text-align: center;">

      <input type="number" id="excludeNumber" placeholder="Enter number to exclude">

      <input type="button" value="Exclude" onclick="exclude()"></div>

   <div  style="margin-top: 20px; text-align: center;"><h4>Output:</h4><div id="array"></div>

      <div id="exNumber"></div>

      <div id="exArray"></div></div><script>

      *let* arr = [];*let* eArr = [];

      *function* push(){*let* number = document.getElementById('number').value;arr.push(number);

         document.getElementById('array').innerText = "Array to Exclude: ["+arr+"]";   }

      *function* exclude(){

         *let* number = document.getElementById('excludeNumber').value;

         for(*let* i = 0; i < arr.length; i++){

            if(arr[i] != number){eArr.push(arr[i]);}}

         document.getElementById('exNumber').innerText = "Number to Exclude: "+number;

         document.getElementById('exArray').innerText = "Excluded Array: ["+eArr +"]";}

   </script></body></html>

**Output:**

# Excluding Elements in arrays

| 2 | Push |

| 2 | Exclude |

**Output:**

Array to Exclude: [1,2,2,3,4,2]
Number to Exclude: 2
Excluded Array: [1,3,4]

**5) Create two variables grade and passingYear. Check if your grade == "A" and passingYear < 2020 with the help of ternary operator(Not allowed to use any logical operator).If both condition true print on console Qualify. Otherwise Fail.**

**Program:**

```
<!DOCTYPE html>
<html lang="en">
<head><title>Qualify</title></head>
<body>
    <h1 style="text-align: center;">Qualified or Not</h1>
    <div style="text-align: center;">
        <input type="text" maxlength="2" id="grade" placeholder="grade"/>
        <input type="number" id="year" placeholder="year"/>
        <input type="button" value="Check" onclick="check()"/>
        <h2 id="result"></h2>
    </div>
    <script>
        function check(){
            let grade = document.getElementById('grade').value;
            let year = document.getElementById('year').value;
            let result = (grade=="A" && year <2020)? "Qualified":"Failed";
            document.getElementById("result").innerHTML = "You are "+result;
            console.log(result);
        }
    </script>
</body>
</html>
```

**Output:**



# Qualified or Not

A | 2019 | Check

# You are Qualified

**6) Find the frequency of characters inside a string. Return the result as an array of objects. Each object has 2 fields: character and number of occurrences.**

**Program:**

```
<!DOCTYPE html>

<html lang="en">

<head><title>Frequency</title></head>

<body><h1 style="text-align: center;">Frequency of an element in a String</h1>

   <div style="text-align: center;"><input type="text" id="str" />

      <input type="button" value="Submit" onclick="check()"/></div>

   <div id="output" style="text-align: center;"></div>

   <script>

     function check(){

        let givenString = document.getElementById("str").value;

        const outputDiv = document.querySelector("#output");

        outputDiv.innerHTML += "<br>Given String:"+givenString+"<br>";

        let uniqueSet = new Set(givenString);let ouput = [];

        for(x of uniqueSet){

          let frequencyObject = new Object();

          let count = 0;

          for(y of givenString){ if(x==y){ count++;}}

          frequencyObject.charecter = x;

          frequencyObject.count = count;

          outputDiv.innerHTML += "<br>Charecter:"+x+" number: "+count;

          ouput.push(frequencyObject);

        }console.log(ouput);}

   </script></body></html>
```

**Output:**

# Frequency of an element in a String

element      Submit

Given String:element

Charecter:e number: 3
Charecter:l number: 1
Charecter:m number: 1
Charecter:n number: 1
Charecter:t number: 1

**7) Create a function that will receive n as argument and return an array of n unique random numbers from 1 to n.**

**Program:**

<!DOCTYPE html>

<html lang="en">

<head><title>Return M Unique Values for N natural Number</title></head>

<body><h1 style="text-align: center;">Return M Unique Values for N natural Number</h1>

  <div style="text-align: center;">

    <input type="number" id="n"/>

    <input type="button" value="submit" onclick="random()"/>

  </div><h4 id="output" style="text-align: center;"></h4>

  <script>

    *function* random(){

      *let* val = document.getElementById("n").value;

      *let* num = Math.floor(Math.random() * val);

      *let* out = [...(getUniqueRandomNumbers(num,val))];

      document.getElementById("output").textContent = "["+out+"]";

      console.log(out);        }

    *function* getUniqueRandomNumbers(*range,val*) {

      *let* numbers = new Set();

      while (numbers.size < range) {

        *let* num = Math.floor(Math.random() * val);

        numbers.add(num);}

    return numbers;}

  </script></body></html>

**Output:**

# Return M Unique Values for N natural Number

| 10 | submit |

**[4,1,5,9,6,8,7]**

## 8) Write a JavaScript program to calculate age.

## Program:

```
<!DOCTYPE html>

<html lang="en">

<head>   <title>Calculate Age</title></head>

<body><h1 style="text-align: center;">Age Calculator</h1>

  <div  style="text-align: center;">

    <input type="date" id="d"/>

    <input type="button" value="Calculate" onclick="calculate()"/>

    <h4 id="age"></h4>

  </div>

  <script>

    function calculate() {

       let dob = new Date(document.getElementById("d").value);

       let todayDate = new Date();

       let year = todayDate.getFullYear() - dob.getFullYear();

       let month = todayDate.getMonth() - dob.getMonth();

       let days = todayDate.getDate() - dob.getDate();

       console.log(year,month,days);

       if (dob > todayDate) {alert("Check the input Date...");return;}

       if (month < 0) {year--;month += 12;}

       if (days < 0) {month--;

          let prevMonth = new Date(todayDate.getFullYear(), todayDate.getMonth(), 0);

          days += prevMonth.getDate();}

       document.getElementById("age").innerText = "Your Age: "+year+" Years, "+month+" Months, and "+days+"
Days";}

  </script></body></html>
```

## Output:

# Age Calculator

08-08-2004 📅 Calculate

**Your Age: 20 Years, 6 Months, and 3 Days**