Program 6

Create an HTML page to demonstrate the use of various predefined functions in a string and math object in java script.

main.html:

```
<html>
  <head>
    <title>PROGRAM 6</title>
    <style>
      body{
        margin: 0;
        padding: 20px;
        background-color: #f4f4f4;
      }
      h1{
        font-size: 35px;
        font-style: normal;
        text-align: center;
      }
      h2{
        font-size: 25px;
        margin-left: 20px;
      }
      h3{
        margin-left: 40px;
      }
      input{
        margin-left: 40px;
      }
      p{
        margin-left: 50px;
      }
```

```
    button{
      margin-left: 40px;
      padding: 8px 15px;
      background-color: #28a745; /* Green button */
      color: white;
      border: none;
      cursor: pointer;
      border-radius: 4px;
    }
  </style>
</head>
<body>
  <h1>Java Script String and Math Functions</h1><br>
  <ol>
    <li><h2>Java script String Functions</h2></li>
    <input type="text" id="inputString" placeholder="Enter text here">
    <ul>
      <li><h3>String length : </h3></li>
        <button onclick="stringLength()">Length</button><br>
        <p id="length"></p>
      <li><h3>String Slice : </h3></li>
        <button onclick="stringSlice()">slice</button><br>
        <p id="sliced1"></p>
        <p id="sliced2"></p>
      <li><h3>String substring : </h3></li>
        <button onclick="stringSubstring()">substring</button><br>
        <p id="substringed1"></p>
      <li><h3>String substr : </h3></li>
        <button onclick="stringSubstr()">substr</button><br>
        <p id="substred1"></p>
        <p id="substred2"></p>
        <p id="substred3"></p>
```

```
    <li><h3>String Replace : </h3></li>
      <button onclick="stringReplace()">Replace</button><br>
      <p id="original"></p>
      <p id="replace"></p>
    <li><h3>String Uppercase : </h3></li>
      <button onclick="stringUpperCase()">Uppercase</button><br>
      <p id="upper"></p>
    <li><h3>String Lowercase : </h3></li>
      <button onclick="stringLowerCase()">Lowercase</button><br>
      <p id="lower"></p>
    <li><h3>String Concat : </h3></li>
      <button onclick="stringConcat()">Concat</button><br>
      <p id="concated1"></p>
      <p id="concated2"></p>
      <p id="concated3"></p>
  </ul>
  <br><br>
  <li> <h2>Java script Math Functions</h2></li>
  <ul>
    <li><h3>Number To integer : </h3></li>
      <button onclick="numberConvertion()">Convert</button><br>
      <p id="num"></p>
      <ul>
        <li>Math Round : </li>
        <p id="round"></p>
        <li>Math Ceil : </li>
        <p id="ceil"></p>
        <li>Math Floor : </li>
        <p id="floor"></p>
        <li>Math Trunc : </li>
        <p id="trunc"></p>
      </ul>
```

```
<li><h3>Math Sign : </h3></li>
  <p>returns -1 if x is negative, 0 if null, and 1 if positive :</p>
  <button onclick="numberSign()">Sign</button><br>
  <p id="sign1"></p>
  <p id="sign2"></p>
  <p id="sign3"></p>
<li><h3>Math Pow : </h3></li>
  <p>Math.pow(x, y) returns the value of x to the power of y :</p>
  <button onclick="numberPow()">Power</button><br>
  <p id="power"></p>
<li><h3>Math sqrt : </h3></li>
  <p>Math.Sqrt(x) returns the square root of x :</p>
  <button onclick="numberSqrt()">Square Root</button><br>
  <p id="sqrt"></p>
<li><h3>Math Abs : </h3></li>
  <p>Math.abs(x) returns the absolute (positive) value of x :</p>
  <button onclick="numberAbs()">Absolute</button><br>
  <p id="absolute"></p>
<li><h3>Math Min and Max : </h3></li>
  <p>Math.min() and Math.max() can be used to find the lowest or highest value in a list of arguments :</p>
  <button onclick="numberMinMax()">min and max</button><br>
  <p id="list"></p>
  <p id="min"></p>
  <p id="max"></p>
<li><h3>Math Random : </h3></li>
  <p>Math.random() returns a random number between 0 (inclusive), and 1 (exclusive) :</p>
  <button onclick="numberRandom()">Random</button><br>
  <p id="random"></p>
<li><h3>Math Log : </h3></li>
  <p>Math.log(x) returns the natural logarithm of x :</p>
  <button onclick="numberLog()">Log</button><br>
```

```
            <p id="log"></p>
          <li><h3>Math Log10 : </h3></li>
            <p>Math.log10(x) returns the base 10 logarithm of x :</p>
            <button onclick="numberLog10()">Log10</button><br>
            <p id="log10"></p>
        </ul>

    </ol>
    <script>
        // String Function
        let inputElement = document.getElementById("inputString");
        function stringLength(){
            let text = inputElement.value;
            let len = text.length;
            document.getElementById("length").innerHTML = "Length of the string is : "+len;
        }

        function stringSlice(){
            let text = inputElement.value;
            let slice1 = text.slice(7,13);
            document.getElementById("sliced1").innerHTML = "String sliced from 7 to 13 : "+slice1;
            let slice2 = text.slice(-12);
            document.getElementById("sliced2").innerHTML = "String sliced by negative parameter
(-12) : "+slice2;
        }

        function stringSubstring(){
            let text = inputElement.value;
            let substring1 = text.substring(7,13);
            document.getElementById("substringed1").innerHTML = "Extracting text from String
using substring method from 7 to 13 : "+ substring1;
        }
```

```
function stringSubstr(){
    let text = inputElement.value;
    let substr1 = text.substr(7,6);
    document.getElementById("substred1").innerHTML = "Extracting text from String using substr method from 7 to next 6 character : "+substr1;
    let substr2 = text.substr(7);
    document.getElementById("substred2").innerHTML = "Extracting text from String using substr method from 7 to end : "+substr2;
    let substr3 = text.substr(-4);
    document.getElementById("substred3").innerHTML = "Extracting text from String using negative parametr(-4) for substr method  : "+substr3;
}

function stringReplace(){
    let text = inputElement.value;
    let newtext = text.replace("Banana","Papaya");
    document.getElementById("original").innerHTML = "Orginal string : "+text
    document.getElementById("replace").innerHTML = "String after replaced : "+newtext
}

function stringUpperCase(){
    let text = inputElement.value;
    let textUp = text.toUpperCase();
    document.getElementById("upper").innerHTML = "String to Uppercase: "+ textUp;
}

function stringLowerCase(){
    let text = inputElement.value;
    let textLo = text.toLowerCase();
    document.getElementById("lower").innerHTML = "String to Uppercase: "+ textLo;
}

function stringConcat(){
    let text = inputElement.value;
```

```
        let text2 = "Mango";
        let text3 = text.concat(" ", text2);
        document.getElementById("concated1").innerHTML = "String 1: "+ text;
        document.getElementById("concated2").innerHTML = "String 2: "+ text2;
        document.getElementById("concated3").innerHTML = "Concated String : "+ text3;
    }
    // Math Function
    function numberConvertion(){
        let x = 10.2
        document.getElementById("num").innerHTML = "The Number is  : " + x;
        document.getElementById("round").innerHTML = "Math.round("+x+"), rounded to its
nearest integer : " + Math.round(x);
        document.getElementById("ceil").innerHTML = "Math.ceil("+x+"), rounded up to its
nearest integer : " + Math.ceil(x);
        document.getElementById("floor").innerHTML = "Math.floor("+x+"), rounded down to its
nearest integer : " + Math.floor(x);
        document.getElementById("trunc").innerHTML = "Math.trunc("+x+"), integer part of the
number : " + Math.trunc(x);
    }

    function numberSign(){
        document.getElementById("sign1").innerHTML = "Math.sign(4) returns: " + Math.sign(4);
        document.getElementById("sign2").innerHTML = "Math.sign(-4) returns: " + Math.sign(-
4);
        document.getElementById("sign3").innerHTML = "Math.sign() returns: " + Math.sign(0);
    }

    function numberPow(){
        document.getElementById("power").innerHTML = "Math.pow(10,2) retuns : " +
Math.pow(10,2);
    }
     function numberSqrt(){
        document.getElementById("sqrt").innerHTML = "Math.sqrt(100) retuns : " +
Math.sqrt(100);
    }
```

```
        function numberAbs(){
           document.getElementById("absolute").innerHTML = "Math.abs(-72.5) retuns : " +
Math.abs(-72.5);
        }
        function numberMinMax(){
           document.getElementById("list").innerHTML ="The List is : (0, 150, 30, 20, -8, -200)";
           document.getElementById("min").innerHTML ="Minimum in the list is : " + Math.min(0,
150, 30, 20, -8, -200);
           document.getElementById("max").innerHTML ="Maximum in the list is : " + Math.max(0,
150, 30, 20, -8, -200);
        }
        function numberRandom(){
           document.getElementById("random").innerHTML = "Random Number is : " +
Math.random();
        }
        function numberLog(){
           document.getElementById("log").innerHTML = "Math.log(1) retuns : " +  Math.log(1);
        }
        function numberLog10(){
           document.getElementById("log10").innerHTML = "Math.log10(100000) retuns : " +
Math.log10(100000);
        }
     </script>
  </body>
</html>
```

OUTPUT:

Java Script String and Math Functions

1. **Java script String Functions**

Apple, Banana, Kiwi

- **String length :**

  Length

  Length of the string is : 19

- **String Slice :**

  slice

  String sliced from 7 to 13 : Banana

  String sliced by negative parameter (-12) : Banana, Kiwi

- **String substring :**

  substring

  Extracting text from String using substring method from 7 to 13 : Banana

- **String substr :**

  substr

- **String substr :**

  substr

  Extracting text from String using substr method from 7 to next 6 character : Banana

  Extracting text from String using substr method from 7 to end : Banana, Kiwi

  Extracting text from String using negative parametr(-4) for substr method : Kiwi

- **String Replace :**

  Replace

  Orginal string : Apple, Banana, Kiwi

  String after replaced : Apple, Papaya, Kiwi

- **String Uppercase :**

  Uppercase

  String to Uppercase: APPLE, BANANA, KIWI

- **String Lowercase :**

  Lowercase

  String to Uppercase: apple, banana, kiwi

- **String Concat :**

  Concat

- **String Concat :**

  Concat

  String 1: Apple, Banana, Kiwi

  String 2: Mango

  Concated String : Apple, Banana, Kiwi Mango

2. **Java script Math Functions**

- **Number To integer :**

  Convert

  The Number is : 10.2

  - Math Round :

    Math.round(10.2), rounded to its nearest integer : 10

  - Math Ceil :

    Math.ceil(10.2), rounded up to its nearest integer : 11

  - Math Floor :

    Math.floor(10.2), rounded down to its nearest integer : 10

  - Math Trunc :

    Math.trunc(10.2), integer part of the number : 10

- **Math Sign :**

  returns -1 if x is negative, 0 if null, and 1 if positive :

  Sign

  Math.sign(4) returns: 1

  Math.sign(-4) returns: -1

  Math.sign() returns: 0

- **Math Pow :**

  Math.pow(x, y) returns the value of x to the power of y :

  Power

  Math.pow(10,2) retuns : 100

- **Math sqrt :**

  Math.Sqrt(x) returns the square root of x :

  Square Root

  Math.sqrt(100) retuns : 10

- **Math Abs :**

  Math.abs(x) returns the absolute (positive) value of x :

  Absolute

  Math.abs(-72.5) retuns : 72.5

- **Math Min and Max :**

  Math.min() and Math.max() can be used to find the lowest or highest value in a list of arguments :

  min and max

  The List is : (0, 150, 30, 20, -8, -200)

  Minimum in the list is : -200

  Maximum in the list is : 150

- **Math Random :**

  Math.random() returns a random number between 0 (inclusive), and 1 (exclusive) :

  Random

  Random Number is : 0.2910601398503477 3

- **Math Log :**

  Math.log(x) returns the natural logarithm of x :

  Log

  Math.log(1) retuns : 0

- **Math Log10 :**

  Math.log10(x) returns the base 10 logarithm of x :

  Log10

  Math.log10(100000) retuns : 5