Question Bank for M2

1) Write a JavaScript function that returns a passed string with letters in alphabetical order. Example string : 'webmaster' Expected Output : 'abeemrstw' Note: Assume punctuation and numbers symbols are not included in the passed string..

```
let string1 = "webmaster";
let arr = string1.split("");
console.log(arr);
let arr2 = arr.sort();
console.log(arr2);
console.log(arr2.join(""));
```

Write a JavaScript program to calculate number of days left until next Christmas.

```
today=new Date();
var cmas=new Date(today.getFullYear(), 11, 25);
 if (today.getMonth()==11 && today.getDate()>25)
 {
  cmas.setFullYear(cmas.getFullYear()+1);
 }
var one_day=1000*60*60*24;
console.log(Math.ceil((cmas.getTime()-today.getTime())/(one_day))+
" days");
```

3) Write a JavaScript function that accepts a string as a parameter and counts the number of vowels within the string. Note : As the letter 'y' can be regarded as both a vowel and a consonant, we do not count 'y' as vowel here. Sample Data and output: Example string : 'The quick brown fox' Expected Output : 5

```
let str = "The quick brown fox";
let arr = str.split('');
let temp = 0;
for(let i = 0;i<arr.length;i++){
   if(arr[i]=='a' || arr[i]=='e' || arr[i]=='o' || arr[i]=='i' || arr[i]=='u'){
      temp = temp +1;
   }
}
console.log(temp);
```

4) Develop and demonstrate JavaScript with POP-UP boxes and functions for the following problems:

a) Input: Click on Display Date button using onclick( ) function Output: Display date in the textbox

b) Input: A number n obtained using prompt Output: Factorial of n number using alert
c) Input: A number n obtained using prompt Output: A multiplication table of numbers from 1 to 10 of n using alert
d) Input: A number n obtained using prompt and add another number using confirm Output: Sum of the entire n numbers using alert

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Document</title>
</head>
<body>
<button onclick="displaydate()">Display the date</button>
<br>
<br>
<button onclick="factorial()">Get the factorial</button>
<br>
<br>
<button onclick="table()">Get Table</button>
<br>
<br>
<button onclick="add()">Get Addition</button>
<br>
<br>

<p id="date"></p>
</body>
<script>
function displaydate(){
   let dt = new Date();
   document.getElementById("date").innerHTML = dt;
   setInterval(displaydate,1000);
}
function factorial(){
   let f = prompt("Enter the number","5");
   let g = +f;
   let fact = 1;
for(let i=1;i<=g;i++){
    fact*=i;
   if(i==g){
      alert(`The factorial is ${fact}`);
   }
}
}
```

```
function table(){
   let t_temp = prompt("Enter the number","5");
   let t = +t_temp;
   let output = [];
for(let i=1;i<=10;i++){
   output[i] = t*i;
   alert(`The ${t_temp} * ${i} " = " ${output[i]}`);
}
}
function add(){
   let n1_temp = prompt("Enter the first number","10");
   let n1 = +n1_temp;

   let n2_temp = prompt("Enter the second number","20");
   let n2 = +n2_temp;
   let checker = confirm(`You have entered the value ${n2}`)
   if(checker){
      alert(`The sum is ${n1+n2}`);
   }
   else{
      alert("n2 value not entered");
   }
}
</script>
</html>
```

5) Write a JavaScript program to find out the Fibonacci Series.

```
function fun(iterations){
   let temp = 0;
   let temp2 = 1;
   let sum = 0;
   let arr = []
for(let i=0;i<iterations;i++){
   sum = temp+temp2;
   arr.unshift(sum);
   if(i==iterations-1){
     console.log(arr.reverse());
   }
   temp = temp2;
   temp2 = sum;
}
}
let output = fun(10);
console.log(output);
```

6) Write an HTML page that contains a selection box with a list of 5 countries. When the user selects a country, its capital should be printed next in the list. Add CSS to customize the properties of the font of the capital (color,bold and font size)

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Document</title>
<style>
#capital{
   font-size:50px;
   color:black;
   font-weight:bold;
}
</style>
</head>
<body>
   <select>
      <option value="America">Amercia</option>
      <option value="Canada">Canada</option>
      <option value="Ireland">Ireland</option>
      <option value="England">England</option>
      <option value="India">India</option>
   </select>
<button onclick="fun()">Get Selected Value</button>
<p id="capital"></p>
</body>
<script>
function fun(){
```

```
  let store = document.querySelector("select").value;
  if(store=="America"){
    document.getElementById("capital").innerHTML = "Washington";
  }
  else if(store=="Ireland"){
    document.getElementById("capital").innerHTML = "Dublin";
  }
  else if(store=="England"){
    document.getElementById("capital").innerHTML = "London";
  }
  else if(store=="India"){
    document.getElementById("capital").innerHTML = "Delhi";
  }
   else if(store=="Canada"){
    document.getElementById("capital").innerHTML = "Toronto";
  }
}
</script>
</html>
```

7) Write a program to design a simple calculator using JavaScript

8) VALIDATING HTML FORM ELEMENTS USING JAVASCRIPT.

9) Write a Javascript Program to display the digital clock on the Html page.

```
<!DOCTYPE html>
<html lang="en">
```

```
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Document</title>
   <style>
    .container{
      border: 2px solid red;
      height: 100px;
      width: 250px;
      display: flex;
      flex-direction: row;
      margin:auto;
      align-items: center;
      justify-content: center;
      background-color: black;
    }
    #hour,#minute,#second{
      border: 2px solid red;
      height: 50px;
      width: 50px;
      background-color: white;
      margin-left: 5px;
      color: red;
    }
    #btn{
       display:flex;
       margin:auto;

    }
   </style>
</head>
<body>
 <div class="container">
 <div id="hour"></div>
 <div id="minute"></div>
 <div id="second"></div>
 </div>
<button onclick="gettime()" id="btn">Start the Clock</button>
</body>
<script>
 function gettime(){
  let dt = new Date();
  document.getElementById("hour").innerHTML = dt.getHours();
  document.getElementById("minute").innerHTML = dt.getMinutes();
  document.getElementById("second").innerHTML = dt.getSeconds();
  setInterval(gettime,1000)
 }
```

</script>
</html>

10. Create a form consists of a two Multiple choice lists and one single choice list,

- **The first multiple choice list, displays the Major dishes available.**
- **The second multiple choice list, displays the Starters available.**
- **The single choice list, displays the Soft drinks available.**

The selected items from all the lists should be captured and displayed in a Text Area along with their respective costs. On clicking the 'Total Cost' button, the total cost of all the selected items is calculated and displayed at the end in the Text Area. A 'Clear' button is provided to clear the Text Area.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Menu</title>
</head>
<body>
Choose The Major Dishes:
<br>

<input type="checkbox" name="Pizza" id="Pizza"  class="checkbox" value="Pizza">Pizza
<br>
<input type="checkbox" name="Burger" id="Burger" class="checkbox" value="Burger">Burger
<br>
<input type="checkbox" name="Pasta" id="Pasta" class="checkbox" value="Pasta">Pasta
<br>
<br>
Select the Starters
<br>
<input type="checkbox" name="Rolls" id="Rolls"  class="checkbox" value="Rolls">Rolls
<br>
```

```
<input type="checkbox" name="Sweets" id="Sweets" class="checkbox" value="Sweets">Sweets
<br>
<input type="checkbox" name="chips" id="chips" class="checkbox" value="chips">chips
<br>
Select The Drinks:
<br>
<input type="radio" name="" id="fanta" class="checkbox" value="fanta">Fanta
<br>
<input type="radio" name="" id="pepsi" class="checkbox" value="pepsi">Pepsi
<br>
<input type="radio" name="" id="mirinda" class="checkbox" value="mirinda">Mirinda
<br>

<button onclick="display()">Display Items</button>
<br>
<p id="displayarea"></p>
<p id="displayarea1"></p>
<p id="displayarea2"></p>
<p id="displayarea3"></p>
<p id="displayarea4"></p>
<p id="displayarea5"></p>
<p id="displayarea6"></p>
<p id="displayarea7"></p>
<p id="displayarea8"></p>
<p id="displayarea9"></p>
<p id="displayarea10"></p>
<p id="displayarea11"></p>
<p id="displayarea12"></p>
<p id="displayarea13"></p>
<p id="displayarea14"></p>
```

```
<p id="displayarea15"></p>
<p id="displayarea16"></p>
<p id="displayarea17"></p>
<button onclick="calculatecost()">Calculate Cost</button>
<p id="showcost"></p>
<br>
</body>
<script>
let list = [];
let pizzacost = 10;
let burgercost = 20;
let pastacost = 30;
let rollscost = 5;
let sweetscost = 10;
let chipscost = 20;
let fantacost = 30;
let pepsicost = 10;
let mirindacost = 40;
let cost = 0;
function display(){
let store  = document.querySelectorAll(".checkbox");
for(let i=0;i<9;i++){
   if(store[i].checked==true){
         if(store[i].value=="Pizza" ){
         let text = pizzacost.toString();
         list.push(store[i].value);
         document.getElementById("displayarea").innerHTML = list.join("");
         document.getElementById("displayarea1").innerHTML = text;
         cost += pizzacost;
         }
         else if(store[i].value=="Burger"){
```

```
let text1 = burgercost.toString();
list.push(store[i].value);
document.getElementById("displayarea2").innerHTML = list.join("");
document.getElementById("displayarea3").innerHTML = text1;
cost += burgercost;
}
else if(store[i].value=="Pasta"){
let text2 = pastacost.toString();
list.push(store[i].value);
document.getElementById("displayarea4").innerHTML = list.join("");
document.getElementById("displayarea5").innerHTML = text2;
cost += pastacost;
}
else if(store[i].value=="Rolls"){
let text3 = rollscost.toString();
list.push(store[i].value);
document.getElementById("displayarea6").innerHTML = list.join("");
document.getElementById("displayarea7").innerHTML = text3;
cost += rollscost;
}
else if(store[i].value=="Sweets"){
let text4 = sweetscost.toString();
list.push(store[i].value);
document.getElementById("displayarea8").innerHTML = list.join("");
document.getElementById("displayarea9").innerHTML = text4;
cost += sweetscost;
}
else if(store[i].value=="chips"){
let text5 = chipscost.toString();
list.push(store[i].value);
document.getElementById("displayarea10").innerHTML = list.join("");
```

```
        document.getElementById("displayarea11").innerHTML = text5;
        cost += chipscost;
        }
        else if(store[i].value=="fanta"){
        let text6 = fantacost.toString();
        list.push(store[i].value);
        document.getElementById("displayarea12").innerHTML = list.join("");
        document.getElementById("displayarea13").innerHTML = text6;
        cost += fantacost;
        }
        else if(store[i].value=="pepsi"){
        let text7 = pepsicost.toString();
        list.push(store[i].value);
        document.getElementById("displayarea14").innerHTML = list.join("");
        document.getElementById("displayarea15").innerHTML = text7;
        cost += pepsicost;
        }
        else if(store[i].value=="mirinda"){
        let text8 = mirindacost.toString();
        list.push(store[i].value);
        document.getElementById("displayarea16").innerHTML = list.join("");
        document.getElementById("displayarea17").innerHTML = text8;
        cost += mirindacost;
        }
    }
    else{
    }
}
}
function calculatecost(){
    document.getElementById("showcost").innerHTML = cost.toString();
```

```
}


</script>

</html>
```

11) . Create a web page using two image files, which switch between one another as the mouse pointer moves over the images. Use the onMouseOver and onMouseOut event handlers.

```
<!DOCTYPE html>

<html lang="en">

<head>

  <meta charset="UTF-8">

  <meta http-equiv="X-UA-Compatible" content="IE=edge">

  <meta name="viewport" content="width=device-width, initial-scale=1.0">

  <title>Document</title>

<style>

.container{

  border:2px solid black;

}

</style>

</head>

<body>

<div class="container">

  <img id="image" onmouseover="mouseoverimage()"src="https://static.javatpoint.com/core/images/java-logo1.png" onmouseout="mouseoutimage()">

</div>

</body>

<script>

function mouseoverimage(){

  document.getElementById("image").src = "https://www.freeiconspng.com/thumbs/c-logo-icon/c--logo-icon-0.png";

}
```

```
function mouseoutimage(){
   document.getElementById("image").src = "https://static.javatpoint.com/core/images/java-logo1.png";
}
</script>
</html>
```

12) **Create a form having number of elements (Textboxes, Radio buttons, Checkboxes, and so on). Write JavaScript code to count the number of elements in a form.**

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Textboxes</title>
</head>
<body>
Enter the Name:
<input type="text" class="container">
<br>
Enter the Age:
<input type="number" class="container">
<br>
Enter the Email:
<input type="text" class="container">
<br>
Enter the password:
<input type="text" class="container">
<br>
<button onclick="count()">Count</button>
<p id="para"></p>
</body>
<script>
function count(){
   let x = document.querySelectorAll(".container")
   console.log(x.length);
}

</script>
</html>
```

13)

Create a HTML form that has number of Textboxes. When the form runs in the Browser fill the textboxes with data. Write JavaScript code that verifies that all textboxes has been filled. If a textboxes has been left empty, popup an alert indicating which textbox has been left empty.

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Textboxes</title>
</head>
<body>
Enter the Name:
<input type="text" class="container">
<br>
Enter the Age:
<input type="number" class="container">
<br>
Enter the Email:
<input type="text" class="container">
<br>
Enter the password:
<input type="text" class="container">
<br>
<button onclick="checkempty()">Submit</button>
<p id="para"></p>
</body>
<script>
function checkempty(){
```

```
let store = document.querySelectorAll(".container");
for(let i=0;i<4;i++){
   if(store[i].value==""){
      alert(`The text box ${i} is empty`);
   }
else{}
}
}
</script>
</html>
```

14)

```
function fun(numbers){
```

Write a JavaScript code to find the sum of N natural Numbers. (Use user-defined function)

```
   let sum = 0;
for(let i=1;i<=numbers;i++){
   sum = sum+i;
}
return sum;
}
let output = fun(10);
console.log(output);
```

15)

Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Home Page</title>
  <style>
  </style>
</head>
<body>
<p>Enter the Marks</p>
<label for="">Enter the Math Marks</label>
<input type="number" id="math">
<br>
<label for="">Enter the English Marks</label>
<input type="number" id="english">
<br>
<label for="">Enter the Science Marks</label>
<input type="number" id="science">
<br>
<button id="btn" onclick="checkResult()">Check Result</button>
<br>
The Total Marks are:
<span id="tm"></span>
<br>
The Average Marks are:
<span id="am"></span>
<br>
The Result is:
<span id="result"></span>
```

```
<br>
The Grade is:
<span id="grade"></span>
</body>
<script>
function checkResult(){
   let x = document.getElementById("english").value;
   let x1 = +x;
   let y = document.getElementById("math").value;
   let y1 = +y;
   let z = document.getElementById("science").value;
   let z1 = +z;
   document.getElementById("tm").innerHTML = x1+y1+z1;
   document.getElementById("am").innerHTML = (x1+y1+z1)/3;
if((x1+y1+z1)<45){
   document.getElementById("result").innerHTML = "fail";
}
else{
   document.getElementById("result").innerHTML = "pass";
}
if((x1+y1+z1)>=45 &&(x1+y1+z1)<60){
   document.getElementById("grade").innerHTML = "C";
}
else if((x1+y1+z1)>=60 &&(x1+y1+z1)<80){
   document.getElementById("grade").innerHTML = "B";
}
else if((x1+y1+z1)>=80 &&(x1+y1+z1)<150){
   document.getElementById("grade").innerHTML = "A";
}
}
</script>
```

</html>

16)

Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.

// hra is 40% of basic // da is 60% of basic gross=basic+hra+da;

// tax is 20%of gross // pf is 13% of gross

```
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta http-equiv="X-UA-Compatible" content="IE=edge">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Employee information</title>
</head>
<body>
Enter the Employee name:
<input type="text">
<br>
Enter the Employee Salary:
<input type="number" id="salary">
<br>
The Employee DA:
<span id="da"></span>
<br>
The Employee HRA:
<span id="hra"></span>
<br>
```

```
The Employee PF:
<span id="pf"></span>
<br>
The Employee TAX:
<span id="tax"></span>
<br>
The Employee GROSS PAY:
<span id="gp"></span>
<br>
The Employee Deduction:
<span id="deduction"></span>
<br>
The Employee Net Pay:
<span id="netpay"></span>
<br>

<button onclick="calculate()">Calculate All</button>
</body>
<script>
function calculate(){
   let salary_temp = document.getElementById("salary").value;
   let salary = +salary_temp;
   let da = document.getElementById("da").innerHTML = (salary*60)/100;
   let hra = document.getElementById("hra").innerHTML = (salary*40)/100;
   let grosspay = document.getElementById("gp").innerHTML=salary+da+hra;
   let tax = document.getElementById("tax").innerHTML = (grosspay*20)/100;
   let pf = document.getElementById("pf").innerHTML = (grosspay*13)/100;
   let deductions = document.getElementById("deduction").innerHTML = da+hra+pf+tax;
   let netpay = document.getElementById("netpay").innerHTML = grosspay-deductions;
}
</script>
```

</html>