Coding Assignment – Associate Software Engineer

1. JAVA

Solution (A):-

```
private static void shuffleArray(int[] array)
{
   int index, temp;
   Random random = new Random();
   for (int i = array.length - 1; i > 0; i--)
   {
      index = random.nextInt(i + 1);
      temp = array[index];
      array[index] = array[i];
      array[i] = temp;
   }
}
```

Solution (B):-

```
import java.io.*;
import java.util.*;
public class RomanToInteger2
{
   public static void convertRomanToInt(String s)
   {
      Map<Character, Integer> map=new HashMap<Character, Integer>();
      map.put('I',1);
      map.put('V',5);
      map.put('X',10);
      map.put('L',50);
      map.put('C',100);
      map.put('D',500);
      map.put('M',1000);
      s = s.replace("IV","IIII");
      s = s.replace("IX","VIIII");
      s = s.replace("XL","XXXX");
```

```
        s = s.replace("XC","LXXXX");
        s = s.replace("CD","CCCC");
        s = s.replace("CM","DCCCC");
        int number = 0;
        for (int i = 0; i < s.length(); i++)
        {
            number = number + (map.get(s.charAt(i)));
        }
        System.out.println("The corresponding Integer value is: "+number);
}
    public static void main (String args[])
    {
        convertRomanToInt("MCMXV");
    }
}
}
```

Solution (C):-

```
public class PangramChecker {
    public static boolean isPangram(String str) {
        str = str.toLowerCase();
        boolean[] isLetterPresent = new boolean[26];
        for (char c : str.toCharArray()) {
            if (Character.isLetter(c)) {
                int index = c - 'a';
                isLetterPresent[index] = true;
            }
        }
        for (boolean letterPresent : isLetterPresent) {
            if (!letterPresent) {
                return false;
                 }
```

```
}
      return true; // All letters are present, it's a pangram
    }

    public static void main(String[] args) {
      String input = "The quick brown fox jumps over the lazy dog";

      if (isPangram(input)) {
        System.out.println("The input is a pangram.");
      } else {
        System.out.println("The input is not a pangram.");
      }
    }
}
```

2. JavaScript

Solution (A):-

```
function reverseWords(str) {

   let reverseWordArr = str.split(" ").map(word => word.split("").reverse().join(""));
   return reverseWordArr.join(" ");
  }
  x=reverseWords('aabdjrg');
 print(x);
```

Solution (B):-

```
 const arr1 = [24.6,23.7,18.9,76.5];

const arr2 = [54,23,12,97,100];

function arrSort(arr) {
```

```
arr.sort((a,b)=>a-b);
   arr.reverse();
   return arr;
}
console.log(arrSort(arr1));
console.log(arrSort(arr2));
```

3.HTML

Solution (A):-

```
<!DOCTYPE html>
<html>

<head>
   <script src=
"https://cdnjs.cloudflare.com/ajax/libs/mathjs/10.6.4/math.js"
      integrity=
"sha512-
BbVEDjbqdN3Eow8+empLMrJlxXRj5nEitiCAK5A1pUr66+jLVejo3PmjIaucRnjlB0P9R3rBUs3g5jXc8
ti+fQ=="
      crossorigin="anonymous"
      referrerpolicy="no-referrer"></script>
   <script src=
"https://cdnjs.cloudflare.com/ajax/libs/mathjs/10.6.4/math.min.js"
      integrity=
"sha512-
iphNRh6dPbeuPGIrQbCdbBF/qcqadKWLa35YPVfMZMHBSI6PLJh1om2xCTWhpVpmUyb4IvVS9iY
nnYMkleVXLA=="
      crossorigin="anonymous"
      referrerpolicy="no-referrer"></script>

   <style>
      table {
         border: 1px solid black;
         margin-left: auto;
         margin-right: auto;
         background-color: black;
      }

      input[type="button"] {
         width: 100%;
         padding: 20px 40px;
         background-color: grey;
         color: white;
         font-size: 24px;
         font-weight: bold;
         border: none;
         border-radius: 5px;
      }
```

```
      input[type="text"] {
         padding: 20px 30px;
         font-size: 24px;
         font-weight: bold;
         border: none;
         border-radius: 5px;
         border: 2px solid black;
      }
      .clr{
         background-color: black;
      }

   </style>
</head>

<body>

   <!-- Use Table to Create Calculator Structure Design -->
   <table id="calcu">
      <tr>
         <td colspan="3"><input type="text" id="result"></td>
         <td><input type="button" value="AC" onclick="clr()" style="color:red"/> </td>
      </tr>
      <tr>
         <td><input type="button" value="1" onclick="dis('1')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="2" onclick="dis('2')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="3" onclick="dis('3')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="/" onclick="dis('/')"
                  onkeydown="myFunction(event)"> </td>
      </tr>
      <tr>
         <td><input type="button" value="4" onclick="dis('4')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="5" onclick="dis('5')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="6" onclick="dis('6')"
                  onkeydown="myFunction(event)"> </td>
         <td><input type="button" value="*" onclick="dis('*')"
                  onkeydown="myFunction(event)"> </td>
      </tr>
      <tr>
```

```
      <td><input type="button" value="7" onclick="dis('7')"
              onkeydown="myFunction(event)"> </td>
      <td><input type="button" value="8" onclick="dis('8')"
              onkeydown="myFunction(event)"> </td>
      <td><input type="button" value="9" onclick="dis('9')"
              onkeydown="myFunction(event)"> </td>
      <td><input type="button" value="-" onclick="dis('-')"
              onkeydown="myFunction(event)"> </td>
   </tr>
   <tr>
      <td><input type="button" value="0" onclick="dis('0')"
              onkeydown="myFunction(event)"> </td>
      <td><input type="button" value="." onclick="dis('.')"
              onkeydown="myFunction(event)"> </td>

      <!-- solve function call function solve to evaluate value -->
      <td><input type="button" value="=" onclick="solve()"> </td>

      <td><input type="button" value="+" onclick="dis('+')"
              onkeydown="myFunction(event)"> </td>
   </tr>
</table>

<script>

   // Function that display value
   function dis(val) {
      document.getElementById("result").value += val
   }

   function myFunction(event) {
      if (event.key == '0' || event.key == '1'
         || event.key == '2' || event.key == '3'
         || event.key == '4' || event.key == '5'
         || event.key == '6' || event.key == '7'
         || event.key == '8' || event.key == '9'
         || event.key == '+' || event.key == '-'
         || event.key == '*' || event.key == '/')
        document.getElementById("result").value += event.key;
   }

   var cal = document.getElementById("calcu");
   cal.onkeyup = function (event) {
      if (event.keyCode === 13) {
```

```
            console.log("Enter");
            let x = document.getElementById("result").value
            console.log(x);
            solve();
        }
    }

    // Function that evaluates the digit and return result
    function solve() {
        let x = document.getElementById("result").value
        let y = math.evaluate(x)
        document.getElementById("result").value = y
    }

    // Function that clear the display
    function clr() {
        document.getElementById("result").value = ""
    }
  </script>
</body>

</html>
```

Solution (B):-

```
<!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">
  <style>
    body {
      background-color: rgb(27, 172, 225);
      font-family: Verdana;
      text-align: center;
    }

    form {
      background-color: #fff;
      max-width: 500px;
```

```
    margin: 50px auto;
    padding: 30px 20px;
    box-shadow: 2px 5px 10px rgba(0, 0, 0, 0.5);
  }

  .form-control {
    text-align: left;
    margin-bottom: 25px;
  }

  .form-control label {
    display: block;
    margin-bottom: 10px;
  }


  .form-control input,
  .form-control select,
  .form-control textarea {
    border: 1px solid #777;
    border-radius: 2px;
    font-family: inherit;
    padding: 10px;
    display: block;
    width: 95%;
  }

  .form-control input[type="radio"],
  .form-control input[type="checkbox"] {
    display: inline-block;
    width: auto;
  }

  button {
    background-color: #05c46b;
    border: 1px solid #777;
    border-radius: 2px;
    font-family: inherit;
    width: 30%;
    margin-top: 30px;
    margin-bottom: 10px;
  }
</style>
<script>
```

```
function func1(){
   var data1=document.getElementById('formdata');
   data1.addEventListener('click',(x)=>{
      var fname=document.getElementById('firstname').value;
      var lname=document.getElementById('lastname').value;
      var emailid=document.getElementById('emailid').value;
      var mobile=document.getElementById('mobile').value;
      var date=document.getElementById('date').value;
      var country=document.getElementById('country').value;
      var profession=document.getElementById('profession').value;
      var gender=document.getElementById('gender').value;
      let arr=[];
      if(fname==''){
         arr.push('First Name not found\n');
      }
      if(lname==''){
         arr.push('Last Name not found\n');
      }
      if(emailid==''){
         arr.push('email not found \n');
      }
      if(mobile==''){
         arr.push('mobile not found \n');
      }
      if(country==''){
         arr.push('Country not found \n');
      }
      if(date==''){
         arr.push('Date not found..\n');
      }
      if(gender==''){
         arr.push('gender not found\n');
      }
      if(profession==''){
         arr.push('profession missing..');
      }
      if(arr.length!=0){
         alert(arr.toString());
      }
      else if(arr.length==0){
         alert(`FirstName ${fname} \n LastName ${lname}\n EmailId: ${emailid} \n Mobile:
${mobile} \n Country: ${country} \n Gender: ${gender} \n Profession ${profession}.`);
      }
      arr=[];
```

```
        });
      }
    </script>
</head>

<body>
    <h1>Survey Form</h1>

    <!-- Create Form -->
    <form id="formdata" method="post">

        <div class="form-control">
            <label for="firstName"  >
                First Name
            </label>
            <input type="text" placeholder="Enter First Name" id="firstname" required>
        </div>
        <div class="form-control">
            <label for="lastName" >
                Last Name
            </label>
            <input type="text" placeholder="Enter Last Name" id="lastname" required>
        </div>

        <div class="form-control">
            <label for="email" >
                Email
            </label>
            <input type="email" placeholder="Enter email ID" id="emailid" required>
        </div>
        <div class="form-control">
            <label for="mobile" >
                Mobile
            </label>
            <input type="text" placeholder="Enter mobile No." id="mobile" required>
        </div>

        <div class="form-control">
            <label for="dob">
                DOB
            </label>
            <input type="date" id="date" required>
        </div>
```

```
      <div class="form-control">
        <label for="country">
          Country
        </label>
        <select id="country" required>
          <option > --Choose Country-- </option>
          <option value="INDIA">INDIA</option>
          <option value="USA">USA</option>
        </select>
      </div>
<div class="form-control">
   <input type="radio" id="gender" name="gender" value="Male" required>
    <label for="html">Male</label><br>
    <input type="radio" id="gender" name="gender" value="Female" required>
    <label for="css">Female</label><br>
</div>
      <div class="form-control">
        <label for="profession">Profession</label>
        <input type="text" name="profession" placeholder="Enter Profession" id="profession"
required>
      </div>
      <button  onclick=func1()>
        Submit
      </button>
      <button type="reset" style="background-color: red;">
        Cancel
      </button>
   </form>
</body>
</html>
```