Coding Assignment – Associate Software Engineer(cloud vandana)

JAVA

1. Create an array with the values (1, 2, 3, 4, 5, 6, 7) and shuffle it.

Code-

```
import java.util.*;
public class rough6{
public static void main(String[] args){
Scanner s=new Scanner(System.in);
int a[]=new int[7];
for (int i=0;i<a.length;i++){
a[i]=s.nextInt();
}
shuffle(a);
System.out.println(Arrays.toString(a));
}
public static void shuffle(int a[]){
Random random=new Random();
for (int i=a.length-1;i>0;i--){
int ind=random.nextInt(i+1);
int temp=a[i];
a[i]=a[ind];
a[ind]=temp;
}
}
}
```

2. Enter a Roman Number as input and convert it to an integer. (Example: IX = 9)

Code-

```
import java.util.*;
public class roman{
public static void main(String[] args){
Scanner scanner=new Scanner(System.in);
System.out.print("Enter a Roman number: ");
String romanNumeral=scanner.nextLine();
int result=rtoi(romanNumeral);
System.out.println(romanNumeral);
System.out.println(result);
}
public static int rtoi(String s){
if (s==null||s.length()==0){
return 0;
}
HashMap<Character, Integer>romanValues=new HashMap<>();
romanValues.put('I',1);
romanValues.put('V',5);
```

```
romanValues.put('X',10);
romanValues.put('L',50);
romanValues.put('C',100);
romanValues.put('D',500);
romanValues.put('M',1000);
int result=0;
int length=s.length();
for (int i=0;i<length;i++){
char presentChar=s.charAt(i);
int presentValue=romanValues.get(presentChar);
if (i<length-1){
char nextChar=s.charAt(i+1);
int nextValue=romanValues.get(nextChar);
if (presentValue<nextValue){
result+=nextValue-presentValue;
i++;
continue;
}
}
result+=presentValue;
}
return result;
}
}
```

3. Check if the input is pangram or not. (A pangram is a sentence that contains all the alphabets from A to Z)

Code-

```
import java.util.*;
public class pangram{
public static void main(String[] args){
Scanner s=new Scanner(System.in);
System.out.print("Enter a string: ");
String input=s.nextLine();
boolean b=pan(input);
if(b){
System.out.println("The input is a pangram");
}else{
System.out.println("The input is not a pangram");
}
}
public static boolean pan(String input){
input=input.toLowerCase();
HashSet<Character>uniqueChars=new HashSet<>();
for(char c:input.toCharArray()){
if(Character.isLetter(c)){
uniqueChars.add(c);
```

```
}
}
return uniqueChars.size()==26;}}
```

HTML

1. Create a basic calculator using HTML, CSS, and JavaScript with the functionality of add, subtract, multiply and divide. Use the following picture forreference

Code-

HTML-

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet" type="text/css" href="styles.css">
</head>
<body>
  <div class="calculator">
    <input type="text" id="display" disabled>
    <button class="btn" onclick="clearDisplay()">C</button>
    <button class="btn" onclick="appendToDisplay('7')">7</button>
    <button class="btn" onclick="appendToDisplay('8')">8</button>
    <button class="btn" onclick="appendToDisplay('9')">9</button>
    <button class="btn" onclick="appendToDisplay('+')">+</button>
    <button class="btn" onclick="appendToDisplay('4')">4</button>
    <button class="btn" onclick="appendToDisplay('5')">5</button>
    <button class="btn" onclick="appendToDisplay('6')">6</button>
    <button class="btn" onclick="appendToDisplay('-')">-</button>
    <button class="btn" onclick="appendToDisplay('1')">1</button>
    <button class="btn" onclick="appendToDisplay('2')">2</button>
    <button class="btn" onclick="appendToDisplay('3')">3</button>
    <button class="btn" onclick="appendToDisplay('*')">*</button>
    <button class="btn" onclick="appendToDisplay('0')">0</button>
    <button class="btn" onclick="appendToDisplay('.')">.</button>
    <button class="btn" onclick="calculate()">=</button>
    <button class="btn" onclick="appendToDisplay('/')">/</button>
  </div>
  <script src="script.js"></script>
</body>
</html>
```

CSS-

```
body{
  font-family:Arial, sans-serif;
}
.calculator{
  width:300px;
```

```
  margin:0 auto;
  border:2px solid #333;
  border-radius:10px;
  padding:10px;
  background-color:#f5f5f5;
}
input[type="text"]{
  width:100%;
  height:40px;
  margin:5px 0;
  font-size:20px;
  text-align:right;
}
.btn{
  width:70px;
  height:70px;
  margin:5px;
  font-size:20px;
}
```

JS-

```
function appendToDisplay(value){
  document.getElementById('display').value+=value;
}

function clearDisplay(){
  document.getElementById('display').value='';
}

function calculate(){
  const displayValue=document.getElementById('display').value;
  try{
    const result=eval(displayValue);
    document.getElementById('display').value=result;
  } catch (error){
    document.getElementById('display').value='Error';
  }
}
```

2. Create a survey form with Fields; First Name, Last Name, Date of Birth, Country (dropdown), Gender (checkbox), Profession, email, and mobile number. All the input fields are necessary to submit the form. Create two buttons Submit and Reset. Reset will reset the form while clicking on submit, first, it will check all the fields and necessary validations and then a popup will appear displaying all the selected values with labels in front of it. On closing the popup, the form should reset all the values. Use the following image for reference

Code-

```
<!DOCTYPE html>
<html>
<head>
   <title>Survey Form</title>
</head>
<body>
   <form action="something.html" method="post">
      <label for="FirstName">First Name:</label>
      <input type="text" name="FirstName" required><br>

      <label for="LastName">Last Name:</label>
      <input type="text" name="LastName" required><br>

      <label for="DateOfBirth">Date of Birth:</label>
      <input type="date" name="DateOfBirth" required><br>

      <label for="Country">Country:</label>
      <select name="Country" required>
         <option value="India">India</option>
         <option value="Australia">Australia</option>
         <option value="Newzealand">India</option>
         <option value="England">India</option>
         <option value="South Africa">India</option>
      </select><br>

      <label for="Gender">Gender:</label>
      <input type="checkbox" name="Gender" value="Male"> Male
      <input type="checkbox" name="Gender" value="Female"> Female
      <input type="checkbox" name="Gender" value="Other"> Other<br>

      <label for="Profession">Profession:</label>
      <input type="text" name="Profession" required><br>

      <label for="Email">Email:</label>
      <input type="email" name="Email" required><br>

      <label for="MobileNumber">Mobile Number:</label>
      <input type="tel" name="MobileNumber" required><br>

      <input type="submit" value="Submit">
      <input type="reset" value="Reset">
   </form>
</body>
</html>
```

JavaScript-

1. Take a sentence as an input and reverse every word in that sentence.
Example - This is a sunny day > shiT si a ynnus yad.

Code-

```
var inputSentence = prompt("Enter a sentence:");
function reverseWords(sentence) {
  var words = sentence.split(' ');
  var reversedWords = words.map(function(word) {
    return word.split('').reverse().join('');
  });
  return reversedWords.join(' ');
}
var reversedSentence=reverseWords(inputSentence);
alert("Reversed Sentence: "+reversedSentence);
```

2. Perform sorting of an array in descending order.

Code-

```
const input = prompt("Enter numbers separated by commas:");
const numbers = input.split(',').map(Number);
numbers.sort((a, b) => b - a);
console.log("Sorted in descending order: "+numbers);
```