JAVA

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

```java
import java.util.Random;

public class ArrayShuffle
    {
     public static void main(String[] args)
       {
         int[] array = {1, 2, 3, 4, 5, 6, 7};
         shuffleArray(array);

         for(int value : array)
        {
            System.out.print(value + " ");
        }
     }

    public static void shuffleArray(int[] array)
     {
        int n = array.length;
        Random rand = new Random();

        for (int i = n - 1; i > 0; i--)
         {

            int j = rand.nextInt(i + 1);

            int temp = array[i];
            array[i] = array[j];
            array[j] = temp;
        }
     }
}
```

B. Enter Roman Number as input and convert it to integer.

```java
import java.util.*;
public class RomanToInteger
{
    public static void main(String[] args)
{

    static Scanner obj=new Scanner(System.in);
        String romanNumeral = obj.nextLine();

        int result = romanToInt(romanNumeral);
        System.out.println("Integer equivalent of " + romanNumeral + " is: " +
result);
    }

    public static int romanToInt(String s)
    {
        int result = 0;
        int prevValue = 0;

        for (int i = s.length() - 1; i >= 0; i--)
        {
            char currentChar = s.charAt(i);
            int currentValue = 0;

            if (currentChar == 'I')
```

```java
                {
                    currentValue = 1;
                }
                else if (currentChar == 'V')
                 {
                    currentValue = 5;
                }
             else if (currentChar == 'X')
                 {
                    currentValue = 10;
                }
          else if (currentChar == 'L')
             {
                    currentValue = 50;
                }
               else if (currentChar == 'C')
             {
                    currentValue = 100;
                }
             else if (currentChar == 'D')
             {
                    currentValue = 500;
                }
             else if (currentChar == 'M')
             {
                    currentValue = 1000;
                }

             if (currentValue < prevValue)
             {
                    result = result-currentValue;
                } else
             {
                    result =result+currentValue;
                }

             prevValue = currentValue;
          }

          return result;
      }
}
```

C. Check it the input is pangram or not.

```java
import java.util.*;
public class PangramChecker
    {
     static Scanner obj=new Scanner(System.in);
    public static void main(String[] args)
       {
         String input = obj.nextLine();

         boolean isPangram = isPangram(input);

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

```java
    public static boolean isPangram(String input)
     {
        boolean[] alphabet = new boolean[26];
        for (int i = 0; i < input.length(); i++)
       {
            char c = input.charAt(i);

            if (c >= 'A' && c <= 'Z')
            {
                c = (char) (c - 'A' + 'a');
            }

            if (c >= 'a' && c <= 'z')
             {
                int index = c - 'a';
                alphabet[index] = true;
            }
        }

        for (boolean present : alphabet)
        {
            if (!present)
            {
                return false;
            }
        }

        return true;
    }
}
```


JAVASCRIPT

A. Take a sentence as an input and reverse every word in that sentence.

```javascript
function reverseWords(sentence)
  {
    let reversedSentence = '';
    let wordStart = 0;

    for (let i = 0; i <= sentence.length; i++)
    {
        if (i === sentence.length | | sentence[i] === ' ')
        {
            for (let j = i - 1; j >= wordStart; j--)
            {
                reversedSentence =reversedSentence+sentence[j];
            }

            if (i < sentence.length)
             {
                reversedSentence =reverseSentence+ ' ';
                wordStart = i + 1;
            }
        }
    }

    return reversedSentence;
}
```

```javascript
const inputSentence = "Take a sentence as an input";
const reversedResult = reverseWords(inputSentence);

console.log(reversedResult);
```

B.perform sorting of an array in desending order.

```javascript
unction descendingBubbleSort(arr)
    {
     const len = arr.length;

     for (let i = 0; i < len - 1; i++)
      {
         for (let j = 0; j < len - 1 - i; j++)
         {
             if (arr[j] < arr[j + 1])
            {

                 const temp = arr[j];
                  arr[j] = arr[j + 1];
                  arr[j + 1] = temp;
              }
          }
      }
}

const myArray = [3, 1, 4, 1, 5, 9, 2, 6, 5, 3, 5];

descendingBubbleSort(myArray);

console.log(myArray);
```


HTML

A.Create a basic calculator using HTML, CSS, and JavaScript with the
functionality of add, subtract, multiply and divide.

```html
<!DOCTYPE html>
<html>
<head>
    <title>Basic Calculator</title>
    <style>
        .calculator
        {
            width: 200px;
            margin: 0 auto;
            padding: 10px;
            border: 1px solid #ccc;
            border-radius: 5px;
            background-color: #f5f5f5;
        }
    </style>
</head>
<body>
    <div class="calculator">
        <input type="text" id="display" readonly>
        <table>
```

```html
                <tr>
                    <td><button onclick="appendToDisplay('7')">7</button></td>
                    <td><button onclick="appendToDisplay('8')">8</button></td>
                    <td><button onclick="appendToDisplay('9')">9</button></td>
                    <td><button onclick="appendToDisplay('+')">+</button></td>
                </tr>
                <tr>
                    <td><button onclick="appendToDisplay('4')">4</button></td>
                    <td><button onclick="appendToDisplay('5')">5</button></td>
                    <td><button onclick="appendToDisplay('6')">6</button></td>
                    <td><button onclick="appendToDisplay('-')">-</button></td>
                </tr>
                <tr>
                    <td><button onclick="appendToDisplay('1')">1</button></td>
                    <td><button onclick="appendToDisplay('2')">2</button></td>
                    <td><button onclick="appendToDisplay('3')">3</button></td>
                    <td><button onclick="appendToDisplay('*')">*</button></td>
                </tr>
                <tr>
                    <td><button onclick="clearDisplay()">C</button></td>
                    <td><button onclick="appendToDisplay('0')">0</button></td>
                    <td><button onclick="calculateResult()">=</button></td>
                    <td><button onclick="appendToDisplay('/')">/</button></td>
                </tr>
            </table>
        </div>

        <script>
            function appendToDisplay(value)
            {
                document.getElementById('display').value += value;
            }

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

            function calculateResult()
            {
                const expression = document.getElementById('display').value;
                if (expression)
                {
                    try
                    {
                        const result = eval(expression);
                        document.getElementById('display').value = result;
                    }
                    catch (error)
                    {
                        document.getElementById('display').value = 'Error';
                    }
                }
            }
        </script>
</body>
</html>
```

B.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 on 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 label in front of it. On closing the popup, form
should reset all the values.

```html
<!DOCTYPE html>
<html>
<head>
    <title>Survey Form</title>
    <style>
        .form-container
      {
            width: 400px;
            margin: 0 auto;
        }
        label {
            display: block;
            margin-top: 10px;
        }
    </style>
</head>
<body>
    <div class="form-container">
        <h2>Survey Form</h2>
        <form id="surveyForm" onsubmit="return false;">
            <label for="firstName">First Name:</label>
            <input type="text" id="firstName" required>

            <label for="lastName">Last Name:</label>
            <input type="text" id="lastName" required>

            <label for="dob">Date of Birth:</label>
            <input type="date" id="dob" required>

            <label for="country">Country:</label>
            <select id="country" required>
                <option value="USA">USA</option>
                <option value="Canada">Canada</option>
                <option value="UK">UK</option>
                <!-- Add more countries as needed -->
            </select>

            <label>Gender:</label>
            <label for="male">Male</label>
            <input type="checkbox" id="male">
            <label for="female">Female</label>
            <input type="checkbox" id="female">
            <label for="other">Other</label>
            <input type="checkbox" id="other">

            <label for="profession">Profession:</label>
            <input type="text" id="profession" required>

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

            <label for="mobile">Mobile Number:</label>
            <input type="tel" id="mobile" required>

            <button onclick="submitForm()">Submit</button>
            <button onclick="resetForm()">Reset</button>
        </form>
    </div>
```

```
    <script>
        function submitForm() {
            const firstName = document.getElementById('firstName').value;
            const lastName = document.getElementById('lastName').value;
            const dob = document.getElementById('dob').value;
            const country = document.getElementById('country').value;
            const gender =
[...document.querySelectorAll('input[type=checkbox]')]
                .filter(checkbox => checkbox.checked)
                .map(checkbox => checkbox.id)
                .join(', ');
            const profession = document.getElementById('profession').value;
            const email = document.getElementById('email').value;
            const mobile = document.getElementById('mobile').value;

            const message = `First Name: ${firstName}\nLast Name: ${lastName}\
nDate of Birth: ${dob}\nCountry: ${country}\nGender: ${gender}\nProfession: $
{profession}\nEmail: ${email}\nMobile Number: ${mobile}`;

            alert(message);
            resetForm();
        }

        function resetForm()
     {
            document.getElementById('surveyForm').reset();
        }
    </script>
</body>
</html>
```