**JAVA**

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

import java.util.Arrays;

import java.util.Random;

public class ShuffleArray {

public static void main(String[] args) {

int[] array = {1, 2, 3, 4, 5, 6, 7};

shuffleArray(array);

System.out.println("Shuffled Array: " + Arrays.toString(array));

}

public static void shuffleArray(int[] array) {

int n = array.length;

Random rand = new Random();

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

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

int temp = array[i];

array[i] = array[randIndex];

array[randIndex] = temp;

}

}

}

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

import java.util.Scanner;

public class RomanToInteger {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a Roman numeral: ");

String romanNumeral = scanner.nextLine().toUpperCase();

int result = romanToInteger(romanNumeral);

if (result == -1)

{

System.out.println("Invalid Roman numeral.");

}

else

{

System.out.println("The integer equivalent of " + romanNumeral + " is: " + result);

}

}

public static int romanToInteger(String s) {

int result = 0;

int prevValue = 0;

java.util.Map<Character, Integer> romanToIntegerMap = new java.util.HashMap<>();

romanToIntegerMap.put('I', 1);

romanToIntegerMap.put('V', 5);

romanToIntegerMap.put('X', 10);

romanToIntegerMap.put('L', 50);

romanToIntegerMap.put('C', 100);

romanToIntegerMap.put('D', 500);

romanToIntegerMap.put('M', 1000);

for (int i = s.length() - 1; i >= 0; i--) {

int currValue = romanToIntegerMap.get(s.charAt(i));

if (currValue < prevValue) {

result -= currValue;

} else {

result += currValue;

}

prevValue = currValue;

}

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)**

import java.util.Scanner;

public class PangramChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a sentence: ");

String input = scanner.nextLine();

boolean isPangram = checkPangram(input);

if (isPangram) {

System.out.println("The input is a pangram.");

} else {

System.out.println("The input is not a pangram.");

}

}

public static boolean checkPangram(String input) {

input = input.toLowerCase();

boolean[] alphabet = new boolean[26];

for (int i = 0; i < input.length(); i++) {

char ch = input.charAt(i);

if (ch >= 'a' && ch <= 'z') {

alphabet[ch - 'a'] = true;

}

}

for (boolean letterPresent : alphabet) {

if (!letterPresent) {

return false; // If any letter is not present, it's not a pangram

}

}

return true; // All letters from A to Z are present, so it's a pangram

}

}

**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.**

function reverseWordsInSentence(sentence) {

const words = sentence.split(' ');

const reversedWords = words.map(word => reverseWord(word));

const reversedSentence = reversedWords.join(' ');

return reversedSentence;

}

function reverseWord(word) {

return word.split('').reverse().join('');

}

const inputSentence = "Take a sentence as an input";

const reversedSentence = reverseWordsInSentence(inputSentence);

console.log("Original Sentence: " + inputSentence);

console.log("Reversed Sentence: " + reversedSentence);

**2. Perform sorting of an array in descending order**

const arr1 = [30,10,15,20];

const arr2 = [4,3,1,7,10];

function arrSort(arr) {

arr.sort((a,b)=>b-a);

return arr;

}

console.log(arrSort(arr1));

console.log(arrSort(arr2));

**HTML**

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

<!DOCTYPE html>

<html>

<head>

<title>Basic Calculator</title>

<style>

.calculator {

width: 300px;

margin: 0 auto;

padding: 20px;

border: 1px solid #ccc;

border-radius: 5px;

background-color: #f2f2f2;

}

input[type="text"], input[type="button"] {

width: 50px;

height: 50px;

font-size: 18px;

margin: 5px;

}

#result {

width: 100%;

text-align: right;

font-size: 24px;

margin-bottom: 10px;

}

</style>

</head>

<body>

<div class="calculator">

<input type="text" id="result" readonly>

<input type="button" value="7" onclick="addToResult('7')">

<input type="button" value="8" onclick="addToResult('8')">

<input type="button" value="9" onclick="addToResult('9')">

<input type="button" value="+" onclick="addToResult('+')">

<input type="button" value="4" onclick="addToResult('4')">

<input type="button" value="5" onclick="addToResult('5')">

<input type="button" value="6" onclick="addToResult('6')">

<input type="button" value="-" onclick="addToResult('-')">

<input type="button" value="1" onclick="addToResult('1')">

<input type="button" value="2" onclick="addToResult('2')">

<input type="button" value="3" onclick="addToResult('3')">

<input type="button" value="\*" onclick="addToResult('\*')">

<input type="button" value="C" onclick="clearResult()">

<input type="button" value="0" onclick="addToResult('0')">

<input type="button" value="=" onclick="calculateResult()">

<input type="button" value="/" onclick="addToResult('/')">

</div>

<script>

function addToResult(value) {

document.getElementById('result').value += value;

}

function clearResult() {

document.getElementById('result').value = '';

}

function calculateResult() {

try {

document.getElementById('result').value = eval(document.getElementById('result').value);

} catch (error) {

document.getElementById('result').value = 'Error';

}

}

</script>

</body>

</html>

1. **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.**

<!DOCTYPE html>

<html>

<head>

<title>Survey Form</title>

<style>

.survey-form {

width: 400px;

margin: 0 auto;

padding: 20px;

border: 1px solid #ccc;

border-radius: 5px;

background-color: #f2f2f2;

}

label {

display: block;

margin-top: 10px;

}

input, select {

width: 100%;

padding: 10px;

margin-top: 5px;

margin-bottom: 10px;

}

.btn-container {

text-align: center;

}

button {

padding: 10px 20px;

background-color: #007bff;

color: #fff;

border: none;

border-radius: 5px;

margin-right: 10px;

}

#result-popup {

display: none;

position: fixed;

top: 0;

left: 0;

width: 100%;

height: 100%;

background: rgba(0, 0, 0, 0.7);

align-items: center;

justify-content: center;

}

.popup-content {

background: #fff;

padding: 20px;

border-radius: 5px;

}

</style>

</head>

<body>

<div class="survey-form">

<form id="survey-form">

<label for="first-name">First Name:</label>

<input type="text" id="first-name" required>

<label for="last-name">Last Name:</label>

<input type="text" id="last-name" 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="">Select Country</option>

<option value="usa">USA</option>

<option value="canada">Canada</option>

<option value="uk">UK</option>

<!-- Add more countries here -->

</select>

<label>Gender:</label>

<label><input type="checkbox" name="gender" value="male"> Male</label>

<label><input type="checkbox" name="gender" value="female"> Female</label>

<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>

<div class="btn-container">

<button type="submit" onclick="submitForm()">Submit</button>

<button type="button" onclick="resetForm()">Reset</button>

</div>

</form>

</div>

<div id="result-popup">

<div class="popup-content">

<h2>Survey Form Results</h2>

<div id="results"></div>

<button onclick="closePopup()">Close</button>

</div>

</div>

<script>

function submitForm() {

// Get form values

const firstName = document.getElementById('first-name').value;

const lastName = document.getElementById('last-name').value;

const dob = document.getElementById('dob').value;

const country = document.getElementById('country').value;

const genderCheckboxes = document.querySelectorAll('input[type="checkbox"][name="gender"]:checked');

const gender = Array.from(genderCheckboxes).map(checkbox => checkbox.value).join(', ');

const profession = document.getElementById('profession').value;

const email = document.getElementById('email').value;

const mobile = document.getElementById('mobile').value;

// Display results in popup

const resultsDiv = document.getElementById('results');

resultsDiv.innerHTML = `

<p><strong>First Name:</strong> ${firstName}</p>

<p><strong>Last Name:</strong> ${lastName}</p>

<p><strong>Date of Birth:</strong> ${dob}</p>

<p><strong>Country:</strong> ${country}</p>

<p><strong>Gender:</strong> ${gender}</p>

<p><strong>Profession:</strong> ${profession}</p>

<p><strong>Email:</strong> ${email}</p>

<p><strong>Mobile Number:</strong> ${mobile}</p>

`;

// Show popup

document.getElementById('result-popup').style.display = 'flex';

// Reset the form

resetForm();

}

function resetForm() {

document.getElementById('survey-form').reset();

}

function closePopup() {

document.getElementById('result-popup').style.display = 'none';

}

</script>

</body>

</html>