**Coding Assignment Solutions**

**JAVA**

1. import java.util.Arrays;

import java.util.Random;

public class ShuffleArray {

public static void main(String[] args) {

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

// Create a copy of the original array

int[] shuffledArray = Arrays.copyOf(originalArray, originalArray.length);

// Shuffle the copied array

shuffleArray(shuffledArray);

// Print the shuffled array

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

}

public static void shuffleArray(int[] array) {

int n = array.length;

Random random = new Random();

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

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

// Swap array[i] and array[j]

int temp = array[i];

array[i] = array[j];

array[j] = temp;

}

}

}

1. import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

public class RomanToIntegerConverter {

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 entered.");

} else {

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

}

}

public static int romanToInteger(String s) {

Map<Character, Integer> romanMap = new HashMap<>();

romanMap.put('I', 1);

romanMap.put('V', 5);

romanMap.put('X', 10);

romanMap.put('L', 50);

romanMap.put('C', 100);

romanMap.put('D', 500);

romanMap.put('M', 1000);

int result = 0;

int prevValue = 0;

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

int currValue = romanMap.getOrDefault(s.charAt(i), -1);

if (currValue == -1) {

// Invalid character

return -1;

}

if (currValue < prevValue) {

result -= currValue;

} else {

result += currValue;

}

prevValue = currValue;

}

return result;

}

}

1. import java.util.HashSet;

import java.util.Scanner;

import java.util.Set;

public class PangramChecker {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.print("Enter a string to check for pangram: ");

String input = scanner.nextLine().toLowerCase();

boolean isPangram = isPangram(input);

if (isPangram) {

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

} else {

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

}

}

public static boolean isPangram(String input) {

// Remove non-alphabet characters and convert to lowercase

input = input.replaceAll("[^a-z]", "").toLowerCase();

// Create a set to track the unique alphabet characters

Set<Character> alphabetSet = new HashSet<>();

// Iterate through the cleaned input string

for (char c : input.toCharArray()) {

if (Character.isLetter(c)) {

alphabetSet.add(c);

}

}

// A pangram contains all 26 alphabet letters

return alphabetSet.size() == 26;

}

}

**JavaScript**

1. function reverseWordsInSentence(sentence) {

// Split the sentence into words

var words = sentence.split(' ');

// Reverse each word and store them in an array

var reversedWords = words.map(function(word) {

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

});

// Join the reversed words to form the reversed sentence

var reversedSentence = reversedWords.join(' ');

return reversedSentence;

}

// Example usage

var inputSentence = prompt("Enter a sentence:");

var reversedSentence = reverseWordsInSentence(inputSentence);

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

1. // Sample array to sort

var numbers = [5, 2, 9, 1, 5, 6];

// Sort the array in descending order

numbers.sort(function(a, b) {

return b - a;

});

// Print the sorted array

console.log("Sorted Array in Descending Order: " + numbers);

**HTML**

**Calculator.html**

<!DOCTYPE html>

<html>

<head>

<link rel="stylesheet" type="text/css" href="styles.css">

</head>

<body>

<div class="calculator">

<input type="text" id="display" class="display" readonly>

<div class="buttons">

<button class="btn" onclick="clearDisplay()">AC</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="calculate()">=</button>

<button class="btn" onclick="appendToDisplay('/')">/</button>

</div>

</div>

<script src="script.js"></script>

</body>

</html>

**Calculator.css**

.calculator {

width: 300px;

margin: 0 auto;

padding: 10px;

border: 1px solid #ccc;

border-radius: 5px;

box-shadow: 2px 2px 5px #888;

text-align: center;

}

.display {

width: 100%;

padding: 10px;

font-size: 20px;

}

.buttons {

display: grid;

grid-template-columns: repeat(4, 1fr);

}

.btn {

width: 100%;

padding: 10px;

font-size: 20px;

cursor: pointer;

}

.btn:hover {

background-color: #f0f0f0;

}

**Calculator.js**

let display = document.getElementById("display");

function appendToDisplay(value) {

display.value += value;

}

function clearDisplay() {

display.value = "";

}

function calculate() {

try {

display.value = eval(display.value);

} catch (error) {

display.value = "Error";

}

}

**survey form.html**

<!DOCTYPE html>

<html>

<head>

<link rel="stylesheet" type="text/css" href="styles.css">

</head>

<body>

<h1>Survey Form</h1>

<form id="surveyForm" onsubmit="return false;">

<div class="form-group">

<label for="firstName">First Name</label>

<input type="text" id="firstName" required>

</div>

<div class="form-group">

<label for="lastName">Last Name</label>

<input type="text" id="lastName" required>

</div>

<div class="form-group">

<label for="dob">Date of Birth</label>

<input type="date" id="dob" required>

</div>

<div class="form-group">

<label for="country">Country</label>

<select id="country" required>

<option value="" disabled selected>Select a country</option>

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

<option value="INDIA">INDIA</option>

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

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

<!-- Add more options as needed -->

</select>

</div>

<div class="form-group">

<label>Gender</label>

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

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

</div>

<div class="form-group">

<label for="profession">Profession</label>

<input type="text" id="profession" required>

</div>

<div class="form-group">

<label for="email">Email</label>

<input type="email" id="email" required>

</div>

<div class="form-group">

<label for="mobile">Mobile Number</label>

<input type="tel" id="mobile" required>

</div>

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

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

</form>

<div id="popup" class="popup">

<div class="popup-content">

<span class="close" onclick="closePopup()">&times;</span>

<h2>Survey Form Results</h2>

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

</div>

</div>

<script src="script.js"></script>

</body>

</html>

**survey form.css**

.form-group {

margin: 10px;

}

input[type="text"], input[type="date"], select, input[type="email"], input[type="tel"] {

width: 100%;

padding: 5px;

}

input[type="checkbox"] {

margin-right: 5px;

}

button {

margin: 10px;

padding: 10px 20px;

background-color: #007BFF;

color: #fff;

border: none;

cursor: pointer;

}

button:hover {

background-color: #0056b3;

}

/\* Style the popup \*/

.popup {

display: none;

position: fixed;

top: 0;

left: 0;

width: 100%;

height: 100%;

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

z-index: 1;

}

.popup-content {

position: absolute;

top: 50%;

left: 50%;

transform: translate(-50%, -50%);

background-color: #fff;

padding: 20px;

border: 1px solid #ccc;

}

.close {

position: absolute;

top: 10px;

right: 10px;

font-size: 20px;

cursor: pointer;

}

**survey form.js**

function submitForm() {

// Get form values

var firstName = document.getElementById("firstName").value;

var lastName = document.getElementById("lastName").value;

var dob = document.getElementById("dob").value;

var country = document.getElementById("country").value;

var gender = Array.from(document.querySelectorAll('input[name="gender"]:checked')).map(e => e.value).join(', ');

var profession = document.getElementById("profession").value;

var email = document.getElementById("email").value;

var mobile = document.getElementById("mobile").value;

// Validate the form

if (!firstName || !lastName || !dob || !country || !gender || !profession || !email || !mobile) {

alert("Please fill out all fields.");

} else {

// Display results in the popup

var results = "First Name: " + firstName + "<br>" +

"Last Name: " + lastName + "<br>" +

"Date of Birth: " + dob + "<br>" +

"Country: " + country + "<br>" +

"Gender: " + gender + "<br>" +

"Profession: " + profession + "<br>" +

"Email: " + email + "<br>" +

"Mobile Number: " + mobile;

document.getElementById("results").innerHTML = results;

// Show the popup

document.getElementById("popup").style.display = "block";

}

}

function closePopup() {

// Close the popup and reset the form

document.getElementById("popup").style.display = "none";

document.getElementById("surveyForm").reset();

}

function resetForm() {

// Reset the form

document.getElementById("surveyForm").reset();

}