Workshop 02: JavaScript

A calculator with text and numbers

Description automatically generated

***Question\_1.html***

*<!DOCTYPE html>*

*<html>*

*<head>*

*<meta charset="UTF-8" />*

*<meta name="viewport" content="width=device-width, initial-scale=1" />*

*<title>Future Value Calculator</title>*

*<link rel="stylesheet" href="Question\_1.css" />*

*</head>*

*<body>*

*<h1>The Future Value Calculator</h1>*

*<form>*

*<div id="error-message" name="error" class="error"></div>*

*<div>*

*<label for="investment">Total investment:</label>*

*<input type="text" id="investment" name="investment" value="10000" />*

*</div>*

*<div>*

*<label for="interestRate">Annual interest rate:</label>*

*<input type="text" id="rate" name="rate" value="4.5" />*

*</div>*

*<div>*

*<label for="years">Number of years:</label>*

*<input type="text" id="years" name="years" value="10" />*

*</div>*

*<div>*

*<label for="futureValue">Future value:</label>*

*<input type="text" id="futureValue" name="futureValue" disabled/>*

*</div>*

*<div>*

*<label>&nbsp;</label>*

*<button class="button" id="calculateButton">Calculate</button>*

*</div>*

*</form>*

*<script src="Question\_1.js"></script>*

*</body>*

*</html>*

***Question\_1.js***

*// Calculate future value*

*function calcFutureValue(investment, rate, years) {*

*return investment \* Math.pow(1 + rate / 100, years);*

*}*

*// Validate input values*

*function isNotValid(val) {*

*const number = parseFloat(val);*

*return !Number.isFinite(number) || number <= 0;*

*}*

*// Handle calculate button click event*

*function calcButtonClick(event) {*

*event.preventDefault();*

*const investmentInput = document.getElementById("investment");*

*const rateInput = document.getElementById("rate");*

*const yearsInput = document.getElementById("years");*

*const futureValueInput = document.getElementById("futureValue");*

*const errorMessage = document.getElementById("error-message");*

*errorMessage.textContent = "";*

*const investment = parseFloat(investmentInput.value);*

*const rate = parseFloat(rateInput.value);*

*const years = parseFloat(yearsInput.value);*

*if (isNotValid(investment)) {*

*errorMessage.textContent = "\* Please enter a valid investment amount greater than 0.";*

*investmentInput.focus();*

*return;*

*}*

*if (isNotValid(rate)) {*

*errorMessage.textContent = "\* Please enter a valid interest rate greater than 0.";*

*rateInput.focus();*

*return;*

*}*

*if (isNotValid(years)) {*

*errorMessage.textContent = "\* Please enter a valid number of years greater than 0.";*

*yearsInput.focus();*

*return;*

*}*

*// Calculate future value and display*

*const futureValue = calcFutureValue(investment, rate, years);*

*futureValueInput.value = futureValue.toFixed(2);*

*}*

*// Set up event listener and focus on load*

*window.onload = function() {*

*document.getElementById("calculateButton").onclick = calcButtonClick;*

*document.getElementById("investment").focus();*

*};*

***Output:***

***A screenshot of a calculator

Description automatically generated***

***Github Deployment:*** [***https://nambobby.github.io/Web-Lab-UWE-IU/Lab\_2/Lab\_Practice/Question\_1/Question\_1.html***](https://nambobby.github.io/Web-Lab-UWE-IU/Lab_2/Lab_Practice/Question_1/Question_1.html)

A screenshot of a registration form

Description automatically generated

***Question\_2.html***

*<!DOCTYPE html>*

*<html lang="en">*

*<head>*

*<meta charset="UTF-8" />*

*<meta name="viewport" content="width=device-width, initial-scale=1.0" />*

*<title>Register for an Account</title>*

*<link rel="stylesheet" href="Question\_2.css" />*

*</head>*

*<body>*

*<h1>Register for an Account</h1>*

*<div id="error-message" class="error" style="display: none"></div>*

*<div id="success-message" class="success" style="display: none"></div>*

*<form id="registrationForm">*

*<div class="form-group">*

*<label for="email">E-Mail:</label>*

*<input type="text" id="email" name="email" />*

*<span>\*</span>*

*</div>*

*<div class="form-group">*

*<label for="mobile">Mobile Phone:</label>*

*<input type="text" id="mobile" name="mobile" />*

*<span>\*</span>*

*</div>*

*<div class="form-group">*

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

*<select id="country" name="country">*

*<option value="">Select a country</option>*

*<option value="Vietnam">Vietnam</option>*

*<option value="Japan">Japan</option>*

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

*</select>*

*<span>\*</span>*

*</div>*

*<div class="form-group">*

*<label>Contact me by:</label>*

*<div class="checkbox-group">*

*<label><input type="radio" name="contact" value="text" /> Text</label>*

*<label*

*><input type="radio" name="contact" value="email" /> Email</label*

*>*

*<label*

*><input type="radio" name="contact" value="none" /> Don't contact*

*me</label*

*>*

*</div>*

*</div>*

*<div class="form-group">*

*<label for="terms"> Terms of Service:</label>*

*<input type="checkbox" id="terms" name="terms" /> I accept*

*<span>\*</span>*

*</div>*

*<div class="buttons">*

*<button type="button" onclick="validateForm()">Register</button>*

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

*</div>*

*</form>*

*<script src="Question\_2.js"></script>*

*</body>*

*</html>*

***Question\_2.js***

*function validateForm() {*

*const email = document.getElementById("email").value.trim();*

*const mobile = document.getElementById("mobile").value.trim();*

*const country = document.getElementById("country").value;*

*const terms = document.getElementById("terms").checked;*

*const errorMessage = document.getElementById("error-message");*

*const successMessage = document.getElementById("success-message");*

*// Validate mobile values*

*function isNotValid(val) {*

*const number = parseFloat(val);*

*return !Number.isFinite(number);*

*}*

*errorMessage.style.display = "none";*

*errorMessage.innerHTML = "";*

*successMessage.style.display = "none";*

*successMessage.innerHTML = "";*

*const errors = [];*

*const success = [];*

*if (!email) {*

*errors.push("Please enter an email address.");*

*}*

*if (!mobile || isNotValid(mobile)) {*

*errors.push("Please enter a valid mobile phone number.");*

*}*

*if (!country) {*

*errors.push("Please select a country.");*

*}*

*if (!terms) {*

*errors.push("You must agree to the terms of service.");*

*}*

*// Display errors or submit the form*

*if (errors.length > 0) {*

*errorMessage.style.display = "block";*

*errorMessage.innerHTML =*

*"<ul><li>" + errors.join("</li><li>") + "</li></ul>";*

*} else {*

*success.push("Form submitted successfully!");*

*if (success.length > 0) {*

*successMessage.style.display = "block";*

*successMessage.innerHTML =*

*"<ul><li>" + success.join("</li><li>") + "</li></ul>";*

*}*

*}*

*}*

*function resetForm() {*

*document.getElementById("registrationForm").reset();*

*const errorMessage = document.getElementById("error-message");*

*const successMessage = document.getElementById("success-message");*

*errorMessage.style.display = "none";*

*errorMessage.innerHTML = "";*

*successMessage.style.display = "none";*

*successMessage.innerHTML = "";*

*document.getElementById("email").focus();*

*}*

*// Set up event listener and focus on load*

*window.onload = function () {*

*document.getElementById("email").focus();*

*};*

**Output:**

**A screenshot of a computer

Description automatically generatedA screenshot of a register

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

***Github Deployment:*** [***https://nambobby.github.io/Web-Lab-UWE-IU/Lab\_2/Lab\_Practice/Question\_2/Question\_2.html***](https://nambobby.github.io/Web-Lab-UWE-IU/Lab_2/Lab_Practice/Question_2/Question_2.html)