

Assignment 3: JavaScript Control Structures

Objective: In this assignment, students will enhance the order form from Assignment 2 by adding JavaScript-based form validation. This will introduce students to control structures in JavaScript, such as conditional statements and loops, and how they can be applied to validate user input effectively.

Requirements:

1. JavaScript Validation:

- Create or update the script.js file to include validation functions.
- Implement validation for the following form fields:
 - First Name and Last Name: Ensure these fields are not empty and contain only alphabetic characters.
 - Email Address: Validate that the input is in a proper email format.
 - Phone Number: Validate that the input contains only numbers and follows a standard phone number format.
 - Shipping Address: Ensure the field is not empty.
 - Product Selection: Ensure a product is selected from the dropdown.
 - Quantity: Validate that the quantity is a positive integer greater than zero.
 - Payment Method: Ensure that one of the payment methods is selected.
 - Card Number: Validate that the card number is a 16-digit input.
 - Order Date: Ensure the date is selected and it is a proper date.

2. Control Structures:

- Use if-else statements to check the validity of each field.
- Implement **for** or **while** loops, if necessary, to validate fields like the payment method.
- Display appropriate error messages for each validation failure
- Prevent form submission if any validation fails.

3. User Feedback:

- Use JavaScript to display error messages for invalid inputs dynamically.
- Ensure error messages are removed or updated when the user corrects their input.

- Highlight the invalid fields by changing the border or background color using CSS.

4. **Enhanced Form Interactivity:**

- Use event listeners to validate fields in real-time as the user types or changes input.
- Ensure that the form is only submitted when all fields are valid.
- Optionally, display a summary message indicating successful form validation before submission.

Deliverables:

1. order_form.html - The updated HTML file with JavaScript integration.
2. styles.css - The CSS file with additional styles for error messages.
3. script.js - The JavaScript file containing the code for total cost calculation and form validation.
4. Make sure all website files are included in a ZIP or RAR file together.

Grading Criteria:

- JavaScript Validation (50%)
 - Effective use of control structures (if-else, loops) for validation
 - Accurate and comprehensive validation for all required fields
 - Clear and informative error messages
- Form Interactivity (30%)
 - Real-time validation feedback
 - User-friendly error handling and correction
 - Visual indication of invalid fields
- Code Quality (20%)
 - Clean and readable code
 - Efficient use of JavaScript and DOM manipulation
 - Proper organization of validation functions

Conclusion:

Students will gain practical experience with JavaScript control structures and form validation techniques by completing this assignment. This assignment builds upon the previous work by enhancing the form's interactivity and ensuring user input is correct and secure before processing.