

## **Part A: Conceptual Exercises**

### **Exercise 1: Form Validation Basics**

#### **1. What is form validation?**

Form validation is the process of checking whether user input in a form is correct, complete, and in the proper format before submitting the form.

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#### **2. Why is client-side validation important?**

Client-side validation:

- Prevents invalid data from being submitted
  - Improves user experience by giving instant feedback
  - Reduces unnecessary server requests
  - Saves time and bandwidth
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#### **3. Name any two form fields that require validation.**

- Email field
  - Password field
- (Other examples: phone number, username, age, etc.)
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### **Exercise 2: Error Handling**

Error messages guide users by:

- Informing them what went wrong
- Explaining how to fix the issue
- Preventing confusion during form submission
- Improving overall usability

Example:

If a user enters abc in a phone number field, an error message like

**"Phone number must contain exactly 10 digits"** helps them correct it.

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## Part B: Hands-On JavaScript Practice

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### Exercise 3: Email Validation

Before



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing the placeholder "Enter email". To the right of the search bar is a blue "Check Email" button.

After



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing the email address "borgesjaden@student.sfit.ac". To the right of the search bar is a blue "Check Email" button. Below the search bar, the text "Valid email format" is displayed in green.

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### Exercise 4: Phone Number Validation

Before



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing the placeholder "Enter phone number". To the right of the search bar is a blue "Check Phone" button.

After



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing the phone number "9867775436". To the right of the search bar is a blue "Check Phone" button. Below the search bar, the text "Valid phone number" is displayed in green.

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### Exercise 5: Password Strength Check

Before



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing the placeholder "Enter password". To the right of the search bar is a blue "Check Password" button.

After



A screenshot of a web browser window. The address bar shows the file path: C:/Users/HP/Downloads/exp6.html. Below the address bar is a search bar containing a series of dots ".....". To the right of the search bar is a blue "Check Password" button. Below the search bar, the text "Password length is acceptable" is displayed in green.

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## Part C: Local Storage Practice

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### Exercise 6: Storing Data in Local Storage

Before



After



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### Exercise 7: Theme Preference (UI State Management)

Before



After

