

## 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". The page contains a single text input field with the placeholder text "Enter email" and a "Check Email" button to its right.

After



A screenshot of a web browser window. The address bar shows the file path "C:/Users/HP/Downloads/exp6.html". The text input field now contains the email address "borgesjaden@student.sft.ac". Below the input field, the text "Valid email format" is displayed. The "Check Email" button remains to the right of the input field.

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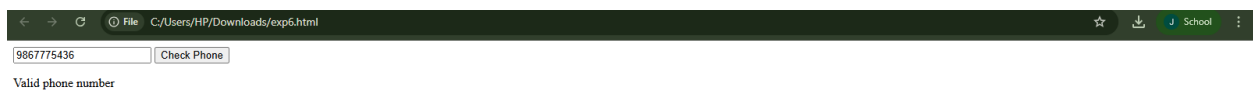
### Exercise 4: Phone Number Validation

Before



A screenshot of a web browser window. The address bar shows the file path "C:/Users/HP/Downloads/exp6.html". The page contains a single text input field with the placeholder text "Enter phone number" and a "Check Phone" button to its right.

After



A screenshot of a web browser window. The address bar shows the file path "C:/Users/HP/Downloads/exp6.html". The text input field now contains the phone number "9867775436". Below the input field, the text "Valid phone number" is displayed. The "Check Phone" button remains to the right of the input field.

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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". The page contains a single text input field with the placeholder text "Enter password" and a "Check Password" button to its right.

After



A screenshot of a web browser window. The address bar shows the file path "C:/Users/HP/Downloads/exp6.html". The text input field now contains masked characters "\*\*\*\*\*". Below the input field, the text "Password length is acceptable" is displayed. The "Check Password" button remains to the right of the input field.

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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

