Question 1: **What are HTML forms used for? Describe the purpose of the input, textarea, select, and button elements.**

* **HTML forms** are used to collect user input and send it to a server for processing. Forms are a crucial part of web applications, enabling tasks like user registration, login, search, and feedback submission.

Purpose of form elements:

**1. <input>**

* **Purpose**: Used to create interactive controls for accepting data from the user.
* **Types**: It supports various type attributes such as:
  + text: Single-line text input.
  + email: Input for email addresses.
  + password: Obscured text for passwords.
  + checkbox, radio: For selections.
  + submit, reset: For form submission or resetting.
* **Example**:

html

*<input type="text" name="username">*

**2. <textarea>**

* **Purpose**: Allows users to enter multi-line text input, such as messages or comments.
* **Example**:

html

*<textarea name="message" rows="4" cols="50"></textarea>*

**3. <select>**

* **Purpose**: Creates a drop-down list of options.
* **Usage**: Often used when users must choose from a predefined set of values.
* **Example**:

html

*<select name="country">*

*<option value="us">United States</option>*

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

*</select>*

**4. <button>**

* **Purpose**: Represents a clickable button, used to submit forms or trigger JavaScript.
* **Types**:
  + submit: Submits the form (default).
  + reset: Resets the form fields.
  + button: Used with scripts for custom actions.
* **Example**:

html

*<button type="submit">Submit</button>*

Question 2: **Explain the difference between the GET and POST methods in form submission. When should each be used?**

| **Feature** | **GET** | **POST** |
| --- | --- | --- |
| **Data Location** | Appended to the URL as query parameters | Sent in the body of the HTTP request |
| **Visibility** | Visible in the browser's address bar | Hidden from the URL |
| **Data Size Limit** | Limited (usually up to ~2000 characters) | Much larger limit (depends on server settings) |
| **Security** | Less secure — data is exposed in the URL | More secure — especially when used with HTTPS |
| **Bookmarkable** | Yes — URL with data can be bookmarked | No — data is not in the URL |
| **Caching** | Can be cached by browsers and servers | Typically not cached |
| **Use Case** | Retrieving data (search, filter, navigation) | Sending or updating data (login, registration, etc.) |
| **Effect on Server** | Safe — should not change server state | Can change server state |
| **Form Example** | <form method="get"> | <form method="post"> |

Question 3: **What is the purpose of the label element in a form, and how does it improve accessibility?**

* The **<label>** element in an HTML form is used to define a **caption** or **description** for a form control (such as an <input>, <textarea>, <select>, etc.).

**✅ Purpose of the <label> Element**

* It **associates descriptive text** with a form control.
* It helps users understand **what input is expected** in a field.
* It improves the **clickable area** — clicking the label focuses or activates the associated input field.

**✅ Syntax**

* There are two ways to associate a <label> with a form control:

1. **Using the for attribute**:

html

*<label for="email">Email Address:</label>*

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

1. **Wrapping the input inside the label**:

html

*<label>*

*Email Address:*

*<input type="email" name="email">*

*</label>*

**♿ How It Improves Accessibility**

* **Screen readers**: Label text is read aloud along with the form control, helping visually impaired users understand the field's purpose.
* **Keyboard users**: Clicking the label moves the focus to the corresponding input, making navigation easier.
* **Better UX**: Labels clarify what the input fields are for, reducing confusion.