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. They are a fundamental way to create interactive web pages that allow users to submit data, such as login information, search queries, or feedback.
  + **<input>** : For single-line input like text, passwords, or files.
  + **<textarea>** : For multi-line input like messages or comments.
  + **<select>** : For dropdown menus to choose options.
  + **<button>:** For actions like submitting or resetting the form.

1. Explain the difference between the GET and POST methods in form submission. When should each be used?

* The **GET** and **POST** methods are used to send form data to a server, but they differ in how they handle and transmit data.
* **GET Method:**
* **Data Transmission:** Sends data appended to the URL as query parameters (e.g., example.com?name=John&age=30).
* **Visibility:** Data is visible in the URL, making it less secure.
* **Size Limit:** Limited amount of data can be sent (due to URL length restrictions).
* **Caching:** Requests can be cached and bookmarked.
* **Use Case:** Suitable for retrieving data or actions with no side effects, such as search queries.
* **POST Method:**
* **Data Transmission:** Sends data in the request body, not visible in the URL.
* **Visibility:** Data is hidden, making it more secure for sensitive information.
* **Size Limit:** Can handle large amounts of data (subject to server limits).
* **Caching:** Requests are not cached or bookmarkable.
* **Use Case:** Suitable for submitting sensitive or large data, such as login forms, file uploads, or any action that modifies server-side data.
* **When to Use:**
* **GET:** When the action is safe, data is non-sensitive, and needs to be cached or bookmarked (e.g., search forms).
* **POST:** When the data is sensitive, large, or changes server-side state (e.g., login, registration, or payments).