**1. Explain various ways of conditional rendering**

React allows you to render elements conditionally using JavaScript logic. Common ways include:

* **if / else statement**: Use standard if-else blocks before the return to decide what JSX to show.
* **Ternary operator (? :)**: Write concise inline conditions inside JSX.  
  Example: {loggedIn ? <Welcome /> : <Login />}
* **Logical AND (&&)**: Render something only if the condition is true.  
  Example: {isAdmin && <AdminPanel />}

These methods help control what UI should be displayed based on app state or props.

**2. Explain how to render multiple components**

You can render multiple components in React by placing them together inside a parent JSX tag, usually a <div> or a Fragment.

return (

<div>

<Header />

<MainContent />

<Footer />

</div>

);

Using <React.Fragment> or shorthand <>...</> avoids adding extra HTML to the DOM.

**3. Define list component**

A **list component** in React is a reusable component that displays a list of elements based on data (usually an array).

* It uses the map() function to iterate over data.
* It can render items like users, messages, products, etc.
* Helps make UIs dynamic and maintainable.

**4. Explain about keys in React applications**

**Keys** are unique identifiers used in lists to help React identify which items changed, were added, or were removed.

* Must be **unique** among siblings.
* Commonly use an id or array index.
* **Improves performance** during re-rendering.
* **Keys are not passed as props** to the component.

**5. Explain how to extract components with keys**

You can move list items into a separate component and assign keys during list rendering.

This helps:

* Reuse the component
* Keep JSX clean
* Maintain proper key usage for React optimization

Example:

function ListItem(props) {

return <li>{props.value}</li>;

}

const listItems = items.map(item =>

<ListItem key={item.id} value={item.name} />

);

**6. Explain React Map, map() function**

The map() function is a JavaScript method used in React to generate a new array of JSX elements.

* Helps render dynamic content
* Works well with arrays like user data, posts, etc.
* Used in rendering lists inside components

Example:

const names = ['Alice', 'Bob'];

const listItems = names.map(name => <li>{name}</li>);

Each item should have a unique key when rendered in a list.

**OUTPUT :-**

