**12.ReactJS-HOL**

**1. Explain about conditional rendering in React**  
Conditional rendering in React allows components to render different UI elements based on certain conditions. It is similar to how conditions work in JavaScript. React supports multiple ways to implement conditional rendering:

**Using if/else statements**

if (isLoggedIn) {

return <Dashboard />;

} else {

return <Login />;

}

**Using ternary operator**

{isLoggedIn ? <Dashboard /> : <Login />}

**Using logical AND (&&) operator**

{isAdmin && <AdminPanel />}

**2. Define element variables**  
Element variables are used to store JSX elements in variables, which can be returned conditionally from components.

let message;

if (isLoggedIn) {

message = <h1>Welcome back!</h1>;

} else {

message = <h1>Please sign up.</h1>;

}

return (

<div>

{message}

</div>

);

Element variables help improve code readability and maintainability when dealing with complex conditional render logic.

**3. Explain how to prevent components from rendering**  
To prevent a component from rendering, you can return null from its render method or from a functional component.

function WarningBanner(props) {

if (!props.warn) {

return null; // nothing is rendered

}

return <div className="warning">Warning!</div>;

}

Returning null means the component will not appear in the DOM, but its lifecycle methods (if any) will still run.