**12. ReactJS-HOL**

**Objectives:**  
**1. Explain about conditional rendering in React**  
Conditional rendering in React means showing or hiding components or elements based on certain conditions (like user login status, data availability, etc.).  
React uses JavaScript logic like if, else, ternary operators, or && inside JSX to decide what to render.

**Example:**

{isLoggedIn ? <LogoutButton /> : <LoginButton />}

**2. Define element variables**  
Element variables are variables used to store JSX elements before rendering.  
You can use them to decide what element to display based on logic, making the code cleaner and more readable.

**Example:**

let button;

if (isLoggedIn) {

button = <LogoutButton />;

} else {

button = <LoginButton />;

}

**3. Explain how to prevent components from rendering**  
To prevent a component from rendering, you can return null from the component.  
This tells React to skip rendering that component without throwing an error.

**Example:**

function Warning(props) {

if (!props.showWarning) {

return null; // Will not render anything

}

return <p>Warning!</p>;

}

**Hands-On exercise:**

**Code:  
App.js**  
import React, { useState } from 'react';

function UserGreeting() {

return <h2>Welcome back</h2>;

}

function GuestGreeting() {

return <h2>Please sign up.</h2>;

}

function Greeting(props) {

const isLoggedIn = props.isLoggedIn;

if (isLoggedIn) {

return <UserGreeting />;

}

return <GuestGreeting />;

}

function LoginButton(props) {

return (

<button onClick={props.onClick}>

Login

</button>

);

}

function LogoutButton(props) {

return (

<button onClick={props.onClick}>

Logout

</button>

);

}

function App() {

const [isLoggedIn, setIsLoggedIn] = useState(false);

const handleLoginClick = () => {

setIsLoggedIn(true);

};

const handleLogoutClick = () => {

setIsLoggedIn(false);

};

let button;

if (isLoggedIn) {

button = <LogoutButton onClick={handleLogoutClick} />;

} else {

button = <LoginButton onClick={handleLoginClick} />;

}

return (

<div>

<Greeting isLoggedIn={isLoggedIn} />

{button}

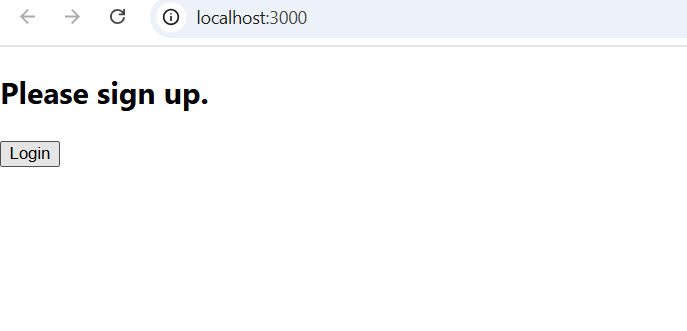
</div>

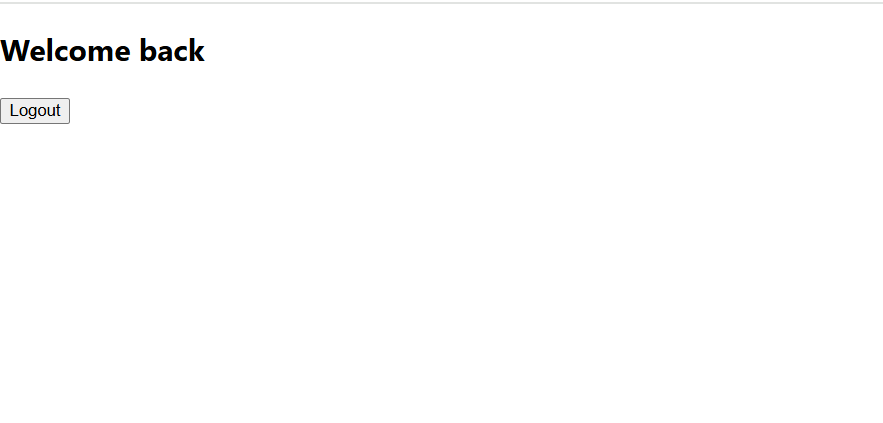
);

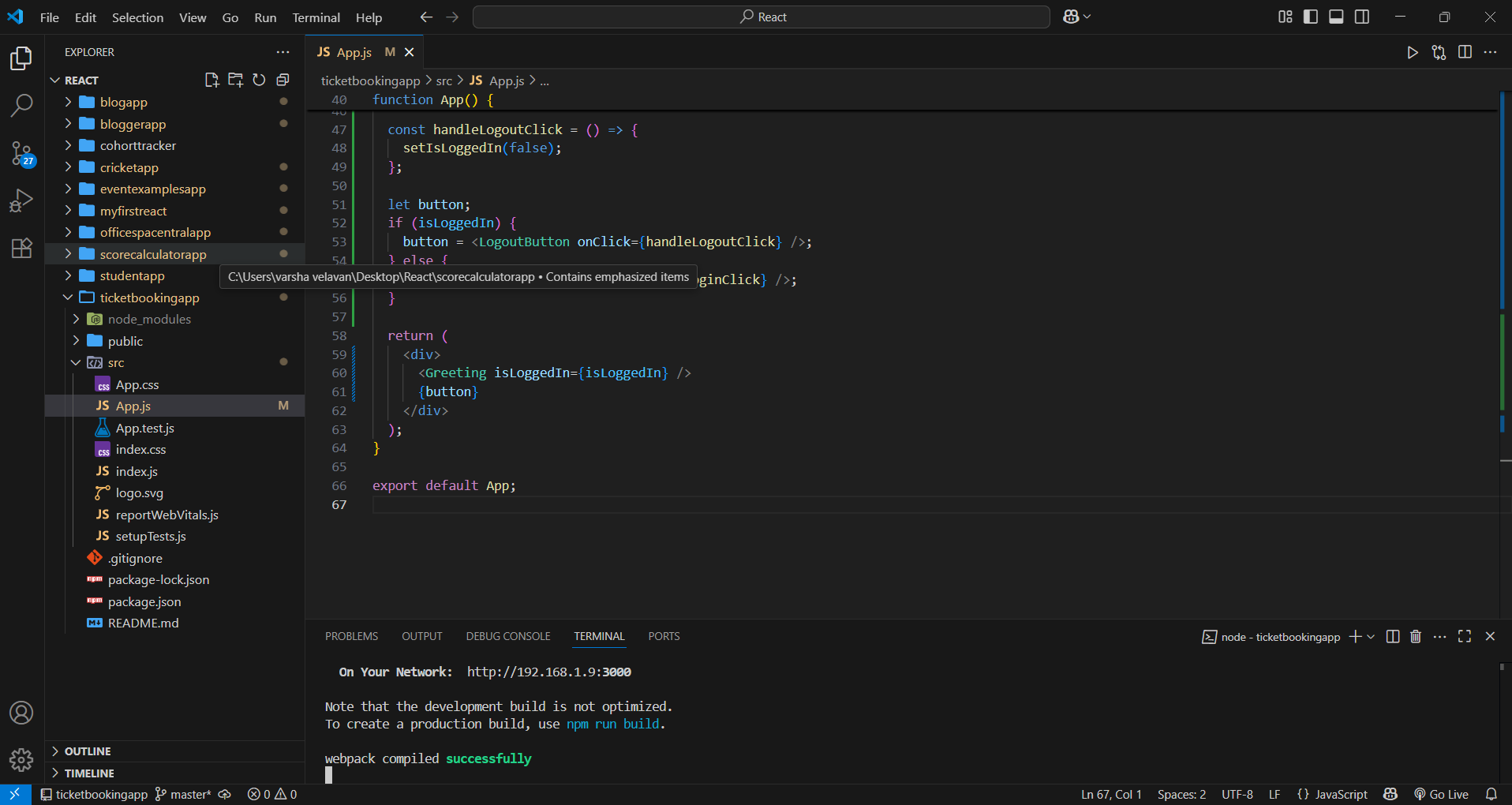
}

export default App;

**Output:**

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