**1. ReactJS-HOL**

**Objectives:**

**1. Define SPA and its benefits**  
A Single-Page Application (SPA) is a web application that loads a single HTML page and dynamically updates content without reloading the page.  
**Benefits include:** faster navigation, smoother user experience, reduced server load, and better performance using client-side rendering.

**2. Define React and identify its working**  
React is an open-source JavaScript library used for building user interfaces, especially for single-page applications. It works by using reusable components and a virtual DOM to efficiently update and render only the necessary parts of the page.

**3. Identify the differences between SPA and MPA**  
SPA (Single-Page Application) loads a single page and dynamically updates content without full page reloads, offering faster and smoother user experience. MPA (Multi-Page Application) loads a new page from the server every time the user navigates, leading to slower performance and more server requests.

**4. Explain Pros & Cons of Single-Page Application**  
**Pros:** Fast navigation, better user experience, efficient resource loading, and less server interaction.  
**Cons:** Slower initial load, SEO limitations, dependency on JavaScript, and security considerations like XSS.

**5. Explain about React**  
React is a JavaScript library developed by Facebook for building interactive user interfaces. It follows a component-based architecture, uses a virtual DOM for performance, and allows developers to manage UI with declarative syntax and reusable code.

**6. Define virtual DOM**  
The virtual DOM is a lightweight copy of the real DOM stored in memory. React uses it to compare changes efficiently and updates only the necessary parts of the actual DOM, improving performance and speed.

**7. Explain Features of React**  
React features include component-based architecture, use of JSX, virtual DOM for faster rendering, unidirectional data flow, reusable components, hooks for managing state, and strong community support.

**Code: (To create “myfirstreact”)**  
Create a new React Application with the name “myfirstreact”, Run the application to print “welcome to the first session of React” as heading of that page.

**App.js**  
import React from 'react';

import './App.css';

function App() {

  return (

    <div className="App">

      <header className="App-header">

        <h1>Welcome to the first session of React</h1>

      </header>

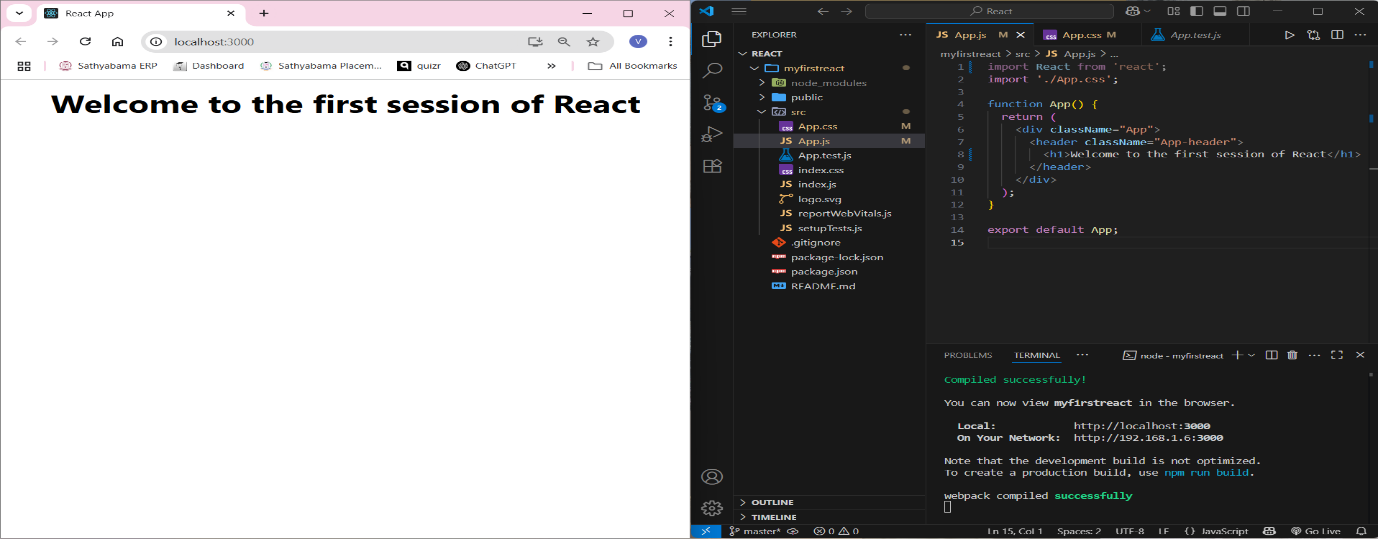
    </div>

  );

}

export default App;

**Output:**

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