WEEK 6 - REACT JS - HANDS ON EXERCISES

1) Define SPA and its benefits

SPA (Single-Page Application) is a web app that loads a single HTML page and dynamically updates content without refreshing the page.

Benefits:

- Faster user experience (no full-page reloads)

- Smooth navigation

- Reduced server load

- Great for building responsive and interactive UIs

2) Define React and identify its working

React is a JavaScript library used to build user interfaces, especially SPAs.
How it works:
Uses components to build reusable UI blocks.
Updates only the part of the UI that changes using virtual DOM, making it fast and efficient.

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3) Differences between SPA and MPA

Feature	SPA (Single-Page App)	MPA (Multi-Page App)
Page Reload	No reloads (dynamic content update)	Full page reload on navigation
Speed	Faster after first load	Slower due to full reloads
Development	Complex routing on client-side	Easier with traditional routing
Example	Gmail, Facebook	Amazon, Flipkart

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4) Pros & Cons of SPA

Pros:

- Fast performance

- Smooth UX

- Great for mobile apps

Cons:

- SEO challenges

- Initial load might be slower

- Requires JavaScript to be enabled

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5) Explain about React

React is:

- Developed by Facebook

- Component-based

- Declarative (you describe what you want, React handles the UI updates)

- Uses JSX (HTML in JavaScript)

- Efficient due to virtual DOM

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6) Define virtual DOM

The virtual DOM is a lightweight copy of the real DOM.
 When something changes:

- React updates the virtual DOM first

- It compares the old vs new version

- Then updates only the changed parts in the real DOM
   This makes React very fast and efficient

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7) Features of React

- Reusable Components

- Virtual DOM

- One-Way Data Binding

- JSX Support

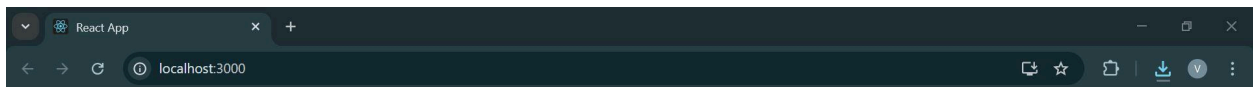- Efficient State Management

- Declarative UI

TASK

1) Create a new React Application with the name "myfirstreact"

CODE :

```
function App() {
  return (
    <h1> Welcome the first session of React </h1>
  );
}
```

OUTPUT :

React App   ×   +

← → C   ⓘ localhost:3000

Welcome the first session of react