**WEEK – 6(HandsOn)**

**React**

**3. ReactJS-HOL**

**Objectives**

**Explain React components:**

React components are the building blocks of any React application.

They are independent, reusable pieces of UI that return JSX (JavaScript + HTML-like syntax).

**Identify the differences between components and JavaScript functions:**

| Feature | JavaScript Function | React Component |
| --- | --- | --- |
| Purpose | Performs logic or calculations | Returns UI (JSX) |
| Return Value | Returns data (number, string, etc.) | Returns JSX |
| Syntax | function add(a, b) | function Header() { return <h1>...</h1>; } |
| Usage in UI | Not used directly | Used like <Header /> |
| Lifecycle Methods | Not applicable | Available in class components |

**Identify the types of components:**

** Function Component**

* Simple JavaScript function that returns JSX.
* Recommended for most modern React code.
* Can use Hooks (like useState, useEffect) for state and lifecycle.

** Class Component**

* Uses ES6 class syntax.
* Supports lifecycle methods.
* Uses render() to return JSX.
* Requires constructor() to initialize state (optional if not needed).

**Explain class component:**

A class component is a type of React component that is declared using ES6 class syntax.  
It extends the base class React.Component and must include a render() method that returns JSX.

**Syntax:**

import React, { Component } from 'react';

class Welcome extends Component {

constructor(props) {

super(props);

this.state = { name: 'React Student' };

}

render() {

return <h2>Welcome, {this.state.name}</h2>;

}

}

**Explain function component:**

A function component is a JavaScript function that returns JSX (React's syntax for HTML).  
It is the simplest and most commonly used way to write components in modern React.

**Syntax:**

import React from 'react';

function Welcome(props) {

return <h2>Welcome, {props.name}</h2>;

}

**Define component constructor:**

The constructor() method is used only in class components to:

* Initialize state
* Bind methods to the component

**Example:**

constructor(props) {

super(props);

this.state = { count: 0 };

}

**Define render() function:**

The render() method is required in all class components.  
It returns the JSX that should be rendered on the screen**.**

**Example:**

render() {

return <h1>Hello, World!</h1>;

}

**CODE:**

**src/Components/Greeting.js:**

import React from 'react';

function Greeting(props) {

return (

<div style={{ textAlign: 'center', marginTop: '50px' }}>

<h2>Hello, {props.name}! 👋</h2>

<p>Welcome to the React Function Component Demo.</p>

</div>

);

}

export default Greeting;

**src/App.js:**

import React from 'react';

import './App.css';

import Greeting from './Components/Greeting';

function App() {

return (

<div className="App">

<Greeting name="Mohanapriya" />

</div>

);

}

export default App;

**OUTPUT:**

