• **Explain React components**

**Ans.** A React Component is a reusable, independent piece of code or custom HTML elements that represents a part of the UI. Each component can maintain its own state, accept props (inputs) and render UI using JSX (JavaScript + XML).

• **Identify the difference between components and functions**

**Ans.**

|  |  |
| --- | --- |
| **React Components** | **JavaScript Functions** |
| Used to build UI elements | General purpose functions |
| Returns UI elements | Returns data or values |
| Called by React internally | Called manually |
| Can maintain internal state | No state management |
| Can have lifecycle methods | No lifecycle methods |

• **Identify the types of components**

**Ans.** (a) Class Components

(b) Function Components

• **Explain class component**

**Ans.** import React, { Component } from 'react';

class Welcome extends Component {

constructor(props) {

super(props); // access `this.props`

this.state = { name: "Subham" }; // initialize

}

render() {

return <h1>Hello, {this.state.name}</h1>;

}

}

• **Explain function component**

**Ans.** import React, { useState } from 'react';

function Welcome(props) {

// useState hook

const [name, setName] = useState("Subham");

return <h1>Hello, {name}</h1>;

}

• **Define component constructor**

**Ans.** constructor(props) {

super(props); // access `this.props`

this.state = { name: "Subham" }; // initialize

}

• **Define render() function**

**Ans.** The render() function is a mandatory method in class components. It returns JSX, which React then renders to the DOM. It defines what UI the component should display based on current state and props.