**1. Explain React Components**

React components are the **building blocks** of a React application. A component is a **reusable piece of code** that returns a **React element** (usually JSX) and controls a portion of the UI.

Think of a component as a **JavaScript function or class** that tells React what to display on the screen.

**2. Identify the Differences Between Components and JavaScript Functions**

| **Feature** | **JavaScript Function** | **React Component** |
| --- | --- | --- |
| Purpose | General logic or operations | Designed to render UI in a React app |
| Return value | Any value (e.g., number, string) | JSX (React element) |
| Usage | Called in code | Rendered inside JSX |
| Props | Receives parameters | Receives props for dynamic content |
| Naming Convention | Any valid function name | Must start with an uppercase letter |

**3. Identify the Types of Components**

React supports two types of components:

* **Function Components**: Defined as JavaScript functions, simpler, and widely used with React Hooks.
* **Class Components**: Defined using ES6 classes and include lifecycle methods like render() and componentDidMount().

**4. Explain Class Component**

A **class component** is a React component created using an ES6 class. It must **extend React.Component** and **include a render() method**.

**Example:**

import React, { Component } from 'react';

class Welcome extends Component {

render() {

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

}

}

**5. Explain Function Component**

A **function component** is a simple JavaScript function that returns JSX. It can use **React Hooks** like useState() and useEffect().

**Example:**

function Welcome(props) {

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

}

**6. Define Component Constructor**

The **constructor** is used in class components to:

* Initialize **state**
* Bind event handler methods

**Example:**

constructor(props) {

super(props);

this.state = {

count: 0

};

}

Always call super(props) before using this in the constructor.

**7. Define render() Function**

The render() function is **required in class components**. It returns the JSX to display on the screen.

**Example:**

render() {

return (

<div>

<h2>Hello World</h2>

</div>

);

}

In function components, render() is **not needed** — the JSX is returned directly from the function.