React Components - Concepts Summary

**1. Explain React Components**

React components are the building blocks of any React application. A component is a reusable piece of UI. Components can be class-based or function-based. Every React component returns JSX, which describes how the UI should appear.

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

**React Component:**

* Used to build UI
* Returns JSX
* Has lifecycle methods (in class components)
* Integrated with React rendering
* Can manage state

**JavaScript Function:**

* Used for logic or data processing
* Returns data or performs an action
* No lifecycle methods
* Not part of React
* No built-in state

**3. Types of Components in React**

There are two main types of components in React:

1. Class Components: Defined using ES6 classes, support lifecycle methods, can hold state.

2. Function Components: Simpler components defined using functions, support hooks like useState.

**4. Explain Class Component**

A class component extends React.Component. It must have a render() method that returns JSX. Class components can manage state and access lifecycle methods like componentDidMount.

Example:

class Welcome extends React.Component {

render() {

return <h1>Hello from Class Component</h1>;

}

}

**5. Explain Function Component**

A function component is a plain JavaScript function that returns JSX. It is simpler and preferred in modern React. Hooks can be used to add features like state and effects.

Example:

function Welcome() {

return <h1>Hello from Function Component</h1>;

}

**6. Define Component Constructor**

The constructor() is a special method in a class component used to initialize state and bind methods. It is called once when the component is created.

Example:

constructor(props) {

super(props);

this.state = { message: 'Hello' };

}

**7. Define render() Function**

The render() method is required in every class component. It returns the JSX to be rendered in the UI. React calls it automatically when a component needs to be shown or updated.

Example:

render() {

return <h1>This is rendered UI</h1>;

}