REACT COMPONENT OVERVIEW

Explain React components

React components are the building blocks of any React application. They allow you to split the UI into independent, reusable pieces that can be thought of as custom, reusable HTML elements. Each component can manage its own state and logic, making the UI more modular and maintainable.

Identify the differences between components and JavaScript functions

While both React components and JavaScript functions are reusable blocks of code, React components return JSX (JavaScript XML) which describes what the UI should look like. JavaScript functions, on the other hand, return plain values or perform computations. React components have a lifecycle and can manage state, whereas regular JS functions do not.

Identify the types of components

There are two main types of React components:
1. Class Components: ES6 classes that extend React.Component.
2. Function Components: JavaScript functions that return JSX.
With the introduction of Hooks, function components can now handle state and side effects, making them more powerful and widely used.

Explain class component

A class component is a more traditional way to define a component in React using ES6 class syntax. It must extend the React.Component class and implement a render() method which returns JSX. Class components can hold and manage their own state and use lifecycle methods like componentDidMount().

Explain function component

A function component is a simpler way to define components using plain JavaScript functions. It accepts props as input and returns JSX. With the addition of Hooks like useState and useEffect, function components can also manage state and side effects.

Define component constructor

The constructor is a special method used in class components to initialize state and bind event handler methods. It is called before the component is mounted. The constructor typically calls super(props) to access this.props inside the constructor.

Define render() function

The render() function is a required method in class components that returns the JSX to be rendered in the DOM. It must return a single root element. React calls the render method whenever it needs to update the UI.