COMPONENT IN REACT

Components are the fundamental building blocks of a React application, and they help in organizing and modularizing the UI into smaller, manageable parts.

For example, let's say you're building a webpage that has a ***header, a navigation menu, and a main content section***. In React, you would create separate components for each of these parts.

The beauty of components is that they are reusable. Once you create a component, you can use it multiple times in your application. So, if you have a button component, you can use it wherever you need a button ***without having to write the same code over and over again.***

Components help make your code more organized, easier to understand, and easier to maintain. They allow you to break down a complex webpage into smaller, manageable pieces. It's like assembling a computer machine, where each component fits together to create the final result.

THERE ARE TWO MAIN TYPES OF COMPONENTS IN REACT

1. **Functional Components:**

   Functional components are JavaScript functions that return JSX. They are also known as stateless components because they don't have their own internal state. Functional components receive data via props and are primarily used for presentational purposes.

   FunctionComponent.js

   e.g.

```
const FunctionComponent = () => {
  return (
<div>
<h1>Hello, I am a function component!</h1>
<p>I don't have any internal state or lifecycle methods.</p>
</div>
  );
}
export default FunctionComponent;
```

   App.js

```
import FunctionComponent from './FunctionComponent';
const App = () => {
  return (
<div>
<h1>Welcome to my app</h1>
<FunctionComponent />
</div>
  );
}
export default App;
```

2. **Class Components:**

Class components are ES6 classes that extend theReact.Component class. They have their own internal state and can have additional functionality through lifecycle methods. Class components are used when we need to manage state or have more complex logic.

e.g.

ClassComponent.js

```
import React from 'react';
class ClassComponent extends React.Component {
render() {
   return (
<div>
<h1>Hello, I am a class component!</h1>
<p>I can have my own internal state and use lifecycle methods.</p>
</div>
   );
 }
}
export default ClassComponent;
```

App.js

```
import React from 'react';
import ClassComponent from './ClassComponent';
class App extends React.Component {
render() {
   return (
<div>
<h1>Welcome to my app</h1>
<ClassComponent />
</div>
   );
 }
}
export default App;
```