**Explain React Components**

* A React Component is a reusable block of code that represents a part of the UI (User Interface) in a React application.
* Each component is self-contained and can manage its own state and logic.
* Components can be combined together to form complex UIs.
* They follow the principle of "divide and conquer" by breaking a big UI into smaller, manageable parts

**Differences Between Components and JavaScript Functions**

| **Aspect** | **React Component** | **JavaScript Function** |
| --- | --- | --- |
| **Purpose** | Used to create UI elements | Used for general code logic |
| **Return Type** | Returns JSX (UI markup) | Returns values/data |
| **Reusability** | Designed for UI reuse | General-purpose logic reuse |
| **Integration** | Managed by React library | Standalone, no React integration |
| **State/Props** | Can use **state** and **props** | No concept of state or props |

**Types of React Components**

There are mainly two types:

1. **Class Components**
2. **Function Components**

**Class Component**

* A Class Component is a component created using ES6 classes.
* It can use state, lifecycle methods, and render() function.
* Class components extend React.Component.

**Function Component**

* A Function Component is created using a JavaScript function.
* It receives props as arguments and returns JSX.
* Initially stateless, but now they can manage state and lifecycle using React Hooks.

**Define Component Constructor**

* The constructor is a special method in class components.
* It is called before rendering and is used to:
  + Initialize state
  + Bind event handlers
  + Set up initial values

**Define render() Function**

* The render() function is mandatory in class components.
* It returns JSX that describes what should be displayed on the UI.
* It gets called whenever state or props change.

**Coding part in visual Studio code**

Home.js

* import React, {Component} from 'react';
* class Home extends Component{
* render()
* {
* return(
* <div>
* <h3>Welcome to the home page of student Management Portal</h3>
* </div>
* );
* }
* }
* export default Home;

About.js

* import React, {Component} from 'react';
* class About extends Component{
* render()
* {
* return(
* <div>
* <h3>Welcome to the About page of student Management Portal</h3>
* </div>
* );
* }
* }
* export default About;

Contact.js

* import React, {Component} from 'react';
* class Contact extends Component{
* render()
* {
* return(
* <div>
* <h3>Welcome to the Contact page of student Management Portal</h3>
* </div>
* );
* }
* }
* export default Contact;

App.js

* import logo from './logo.svg';
* import './App.css';
* import Home from './components/Home';
* import Contact from './components/Contact';
* import About from './components/About';
* function App()
* {
* return(
* <div className="container">
* <Home/>
* <About/>
* <Contact/>
* </div>
* );
* }
* export default App;



