### ****React Components Overview****

**React Components** are modular, reusable pieces of UI. They can be written either as **classes** or **functions**.

**Difference Between React Components and JavaScript Functions**

| **React Component** | **JavaScript Function** |
| --- | --- |
| Returns JSX to render UI | Returns values (usually not JSX) |
| Can manage state and lifecycle | No lifecycle or state |
| Made for building user interfaces | General purpose |
| Can be functional or class-based | Only functional |

**Types of React Component:**

**Class Components**

Written using ES6 classes

Use lifecycle methods

Include a render() method

Can manage internal state

**Function Components:**

Simple JavaScript functions

Return JSX directly

Can use **Hooks** (e.g., useState, useEffect)

Preferred in modern React apps

**Class Component**

A class component extends React.Component and includes a render() method.

jsx

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import React, { Component } from 'react';

class Demo extends Component {

render() {

return <h2>This is a class component</h2>;

}

}

**Function Component**

A function component is a JavaScript function that returns JSX. It’s lightweight and widely used.

function Demo() {

return <h2>This is a function component</h2>;

}

Or with arrow function:

const Demo = () => <h2>This is a function component</h2>;

**Component Constructor (Only for Class Components)**

The constructor() method is used in class components to:

Initialize state

Bind methods

**render() Function (Only for Class Components)**

The render() method returns the JSX to be displayed on the browser.

Practical Task Summary (Score Calculator App)

**App Name:**

**scorecalculatorapp**

**Component Name:**

**CalculateScore** – A **function component** that:

Accepts Name, School, Total, and Goal

Calculates the **average score**

Displays the result using JSX

**Styling:**

A folder named Stylesheets is created

A CSS file mystyle.css is added to apply custom styles to the component

**Final Output in Browser:**

At http://localhost:3000, the app displays the calculated average score along with the student's name and other details — all styled with custom CSS.