**1. React Components**

Components are reusable, independent blocks of UI in a React app, built using either classes or functions.

**2. Components vs JavaScript Functions**

| **Feature** | **React Component (Function)** | **JavaScript Function** |
| --- | --- | --- |
| Returns | JSX (UI markup) | Primitive/structured data |
| Used for | Building UI | Logic / computations |
| React Hooks | Can use (e.g., useState) | No React hooks support |

**3. Types of Components**

* **Class Components** (use render(), lifecycle methods)
* **Function Components** (modern, with Hooks)

**4. Class Component**

Uses ES6 class syntax with a render() method to return JSX.

**5. Function Component**

A JavaScript function that returns JSX. Preferred for most React code.

**6. Component Constructor**

Used in class components to initialize state:

js

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constructor(props) {

super(props);

this.state = { ... };

}

**7. render() Function**

Used only in **class components** to render JSX. Not required in function components.

**Hands-On Lab Steps**

**1. Create React Project**

In Visual Studio Code terminal:

bash

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npx create-react-app scorecalculatorapp

**2. Create Components Folder**

Go to src/ → Create folder Components/  
Add file: CalculateScore.js

**3. Code for CalculateScore.js**

**Path:** src/Components/CalculateScore.js

jsx

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import React from 'react';

import '../Stylesheets/mystyle.css';

function CalculateScore() {

const name = "Riya";

const school = "Sunrise Public School";

const total = 450;

const goal = 500;

const average = (total / goal) \* 100;

return (

<div className="score-card">

<h2>Student Score Details</h2>

<p><strong>Name:</strong> {name}</p>

<p><strong>School:</strong> {school}</p>

<p><strong>Total Score:</strong> {total}</p>

<p><strong>Goal:</strong> {goal}</p>

<p><strong>Average Percentage:</strong> {average.toFixed(2)}%</p>

</div>

);

}

export default CalculateScore;

**4. Add Styling**

Create folder: src/Stylesheets/  
Add file: mystyle.css

**src/Stylesheets/mystyle.css:**

css

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.score-card {

border: 2px solid #4CAF50;

border-radius: 10px;

padding: 20px;

margin: 50px auto;

width: 400px;

background-color: #f0f8ff;

box-shadow: 2px 2px 10px rgba(0, 0, 0, 0.1);

}

.score-card h2 {

color: #333;

text-align: center;

margin-bottom: 20px;

}

.score-card p {

font-size: 16px;

margin: 8px 0;

}

**5. Edit App.js**

Replace content of src/App.js with:

jsx

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import React from 'react';

import './App.css';

import CalculateScore from './Components/CalculateScore';

function App() {

return (

<div className="App">

<CalculateScore />

</div>

);

}

export default App;

**6. Run the App**

In terminal:

bash

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cd scorecalculatorapp

npm start

**7. View Output**

Open browser and visit:  
👉 [**http://localhost:3000**](http://localhost:3000)

