**Hands-on in this document**

**Objectives**

**Explain React components**

A component is a reusable, independent piece of UI in React. Think of it as a JavaScript function that returns JSX (HTML-like syntax).

**Identify the differences between components and JavaScript functions**

|  |  |
| --- | --- |
| **JavaScript Function** | **React Component** |
| **Used for logic** | **Used for UI** |
| **Returns values like number, string** | **Returns JSX (HTML-like code)** |
| **No lifecycle hooks** | **Can have lifecycle methods (e.g. componentDidMount)** |

**Identify the types of components**

Types of Components:

1. Class Components
   * Defined using class.
   * Must extend React.Component.
   * Must include a render() method.
   * Can use constructor and lifecycle methods.
2. Function Components
   * Simple JavaScript functions.
   * Return JSX.
   * With React hooks, can handle state and side-effects.

**Define component constructor**

In React class components, the constructor is a special method used to:

* Initialize the component’s state.
* Bind event handlers (if needed).
* It is called before the component is mounted.

**Define render() function**

In **React class components**, the render() function is a **mandatory method** that tells React **what to display on the screen**.

Purpose of render():

* It **returns JSX** (HTML-like code) that defines the UI of the component.
* It is called **every time the component needs to update the UI**, e.g., after state or props change.

**Code :**

**--Home.js**

import React from 'react';

function Home() {

return (

<div>

<h2>Welcome to the Home page of Student Management Portal</h2>

</div>

);

}

export default Home;

**--About.js**

import React from 'react';

function About() {

return (

<div>

<h2>Welcome to the About page of the Student Management Portal</h2>

</div>

);

}

export default About;

**--Contact.js**

import React from 'react';

function Contact() {

return (

<div>

<h2>Welcome to the Contact page of the Student Management Portal</h2>

</div>

);

}

export default Contact;

**--App.js**

import React from 'react';

import Home from './Components/Home';

import About from './Components/About';

import Contact from './Components/Contact';

function App() {

return (

<div className="App">

<Home />

<About />

<Contact />

</div>

);

}

export default App;

**Output :**

[**http://localhost:3000**](http://localhost:3000)

