**LAB 2**

### 1. ****What are React Components?****

React components are **independent, reusable pieces of UI**. They define **what appears on the screen** and how it behaves. Components let you split the UI into **small, manageable parts**.

### 2. ****Difference Between Components and JavaScript Functions****

| **Aspect** | **React Components** | **JavaScript Functions** |
| --- | --- | --- |
| Purpose | Build UI elements and manage rendering | Perform computations or actions |
| Return Value | Return JSX (UI elements) to render | Return any JavaScript value or perform side effects |
| React-Specific | Have lifecycle methods, state, and props | No React lifecycle or state management |
| Usage | Used to build UI hierarchy | Used for general-purpose programming logic |

### 3. ****Types of React Components****

There are two main types:

**Class Components** (ES6 classes)

**Function Components** (JavaScript functions)

### 4. ****Class Component****

1. Defined as an ES6 class extending React.Component.

2. Can hold **state** and use **lifecycle methods**.

3. Must have a render() method that returns JSX.

**Example:**

import React, { Component } from 'react';

class Welcome extends Component {

render() {

return <h1>Hello, {this.props.name}</h1>;

}}

### 5. ****Function Component****

* Defined as a plain JavaScript function.
* Takes props as argument and returns JSX.
* Initially stateless, but with **React Hooks** (like useState), can manage state.

**Example:**

function Welcome(props) {

return <h1>Hello, {props.name}</h1>;

}

Or using arrow function:

const Welcome = (props) => <h1>Hello, {props.name}</h1>;

### 6. ****Component Constructor****

The constructor is a **special method in class components**.

Used to initialize component state and bind event handlers.

Receives props as an argument and must call super(props) before using this.

**Example:**

class Welcome extends React.Component {

constructor(props) {

super(props);

this.state = { message: 'Hello!' };

}

}

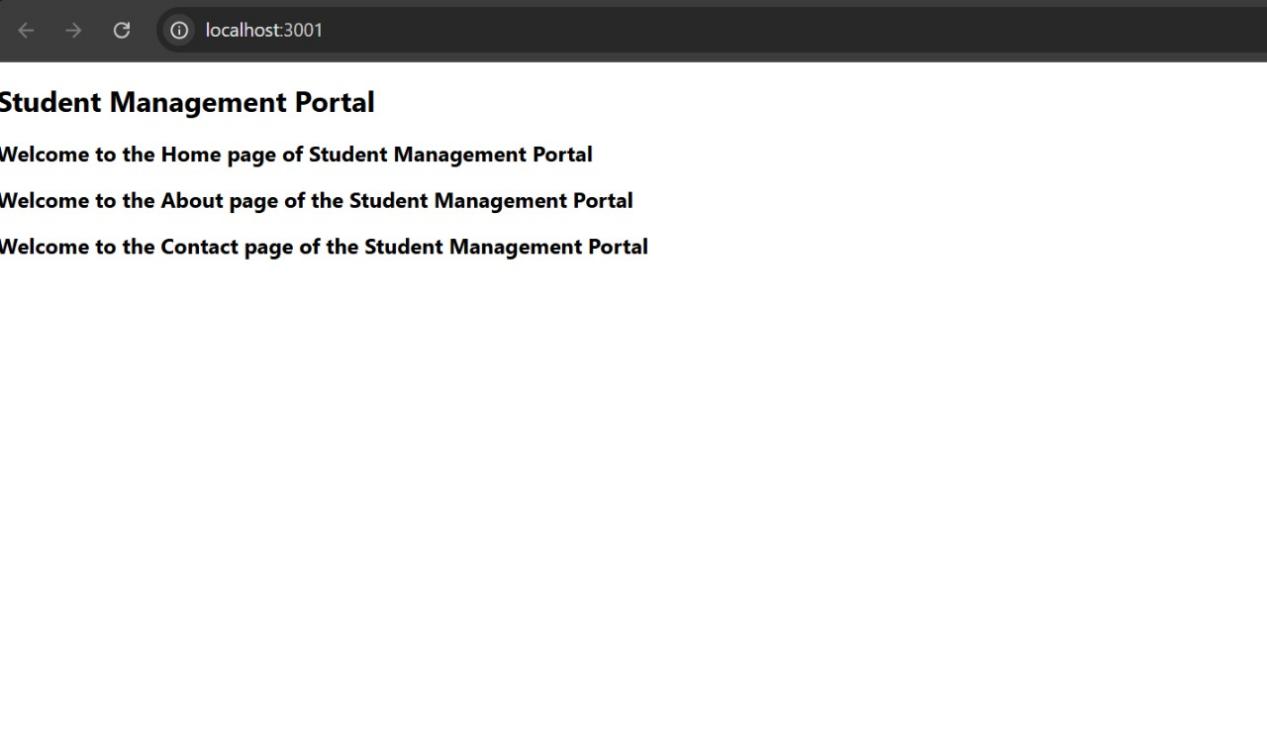
### 7. ****render() Function****

A **required method in class components**.

Returns the JSX that defines the component’s UI.

Called by React to determine what to display.

**Output of Lab 2:**

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