**Exercise:2**

**1. Explain React Components**

React components are the building blocks of a React application. They are reusable, independent pieces of UI that return JSX (JavaScript XML) to describe what the UI should look like. Components manage their own state and behavior and can be nested, reused, and composed to build complex interfaces.

**2. Identify the Differences Between Components and JavaScript Functions**

| **Feature** | **JavaScript Functions** | **React Components** |
| --- | --- | --- |
| Purpose | General-purpose logic or calculations | Build UI elements |
| Return Value | Any value (e.g., number, string, object) | JSX (or React elements) |
| Integration | Standalone or part of logic | Used within React rendering |
| React Features | No React-specific capabilities | Can use props, state, hooks (in function components), lifecycle methods (in class components) |

**3. Identify the Types of Components**

1. Class Components – Use ES6 classes and include lifecycle methods.
2. Function Components – Use JavaScript functions and React Hooks for managing state and side effects.

**4. Explain Class Component**

A **class component** is a component defined using a JavaScript ES6 class that extends React.Component. It must have a render() method that returns JSX.

**5. Explain Function Component**

A **function component** is a simpler way to write components using a plain JavaScript function. It takes props as an argument and returns JSX. With the introduction of **React Hooks**, function components can now manage state and perform side effects.

**Code:**

**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;

**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;

**App.js**

import React from 'react';

import './App.css';

import Home from './Home';

import About from './About';

import Contact from './Contact';

function App() {

  return (

    <div className="App">

      <Home />

      <About />

      <Contact />

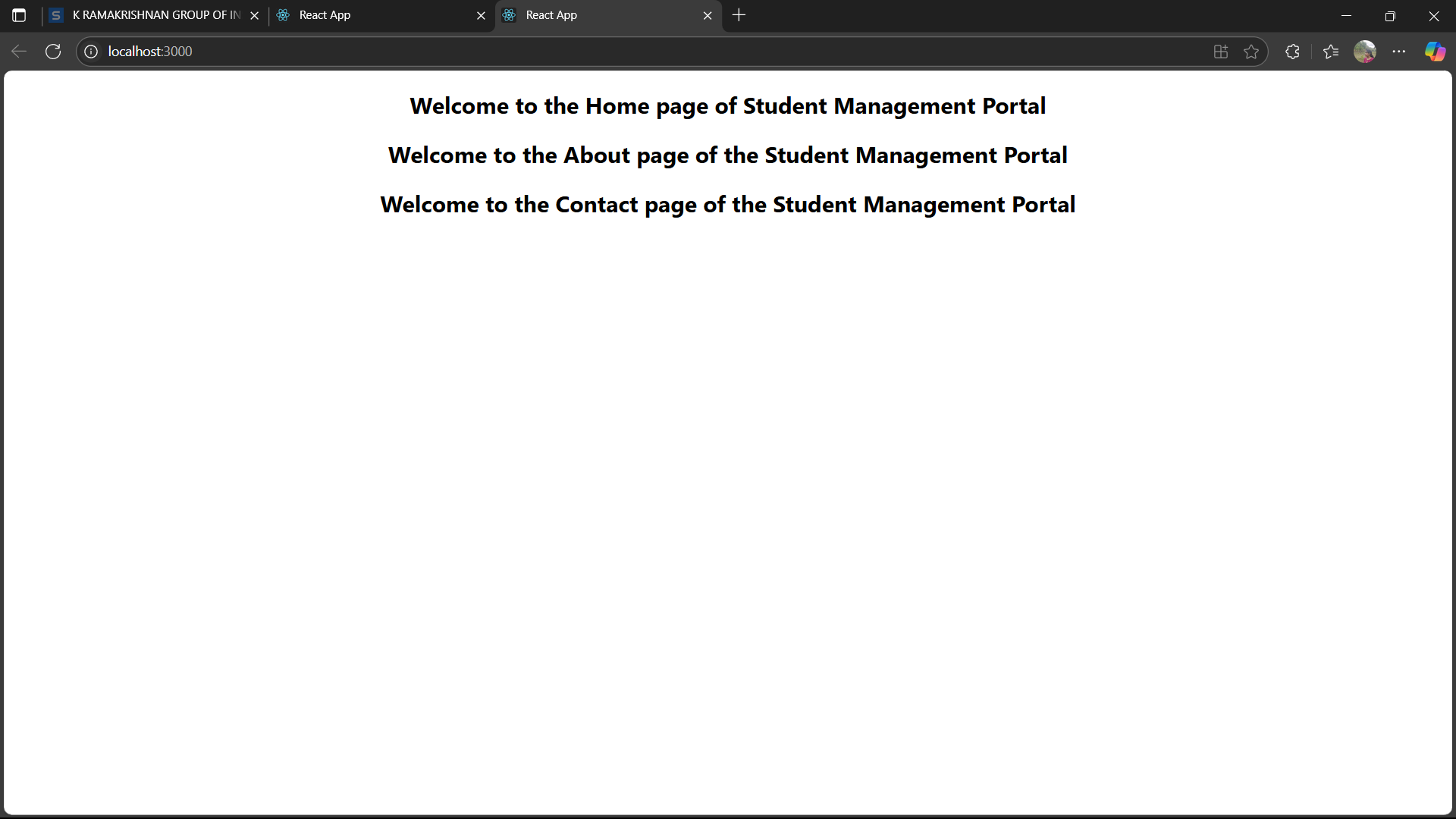
    </div>

  );

}

export default App;

**Output:**

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