Assignment 7A (React Js)

Aim :- WAP to implement ReactJS Router

Create more than two class or functional components and implement a program for Routing using a browser router.
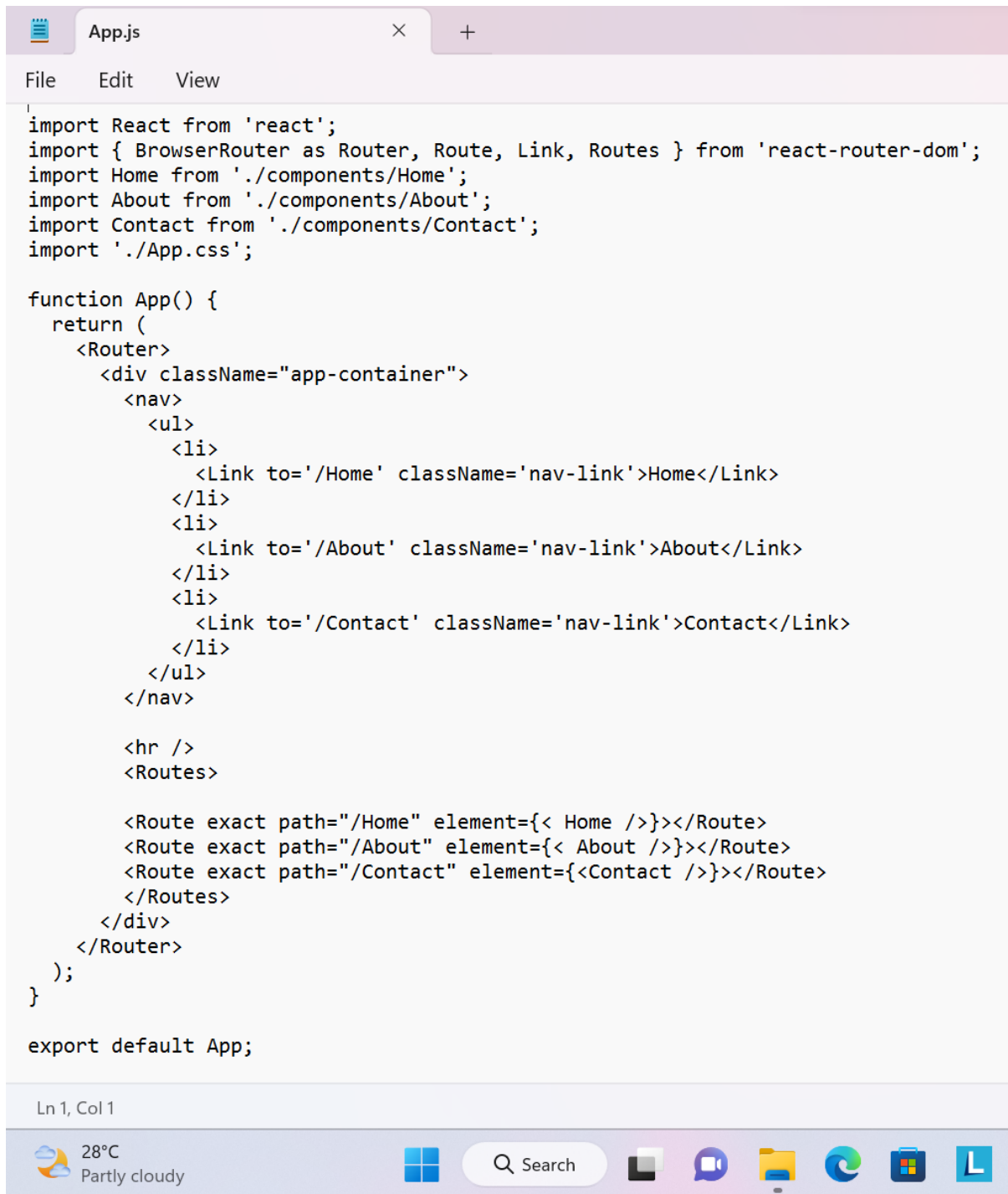
Theory :-

React Router is a popular library for handling routing in React applications. It allows you to build single-page applications with multiple views and manage the navigation between those views. React Router uses a component-based approach, making it easy to integrate routing into your React application.

Here are the key concepts related to React Router:

1. Router :- The `BrowserRouter` or `HashRouter` component is used to wrap your application. It provides the context for routing and renders the appropriate components based on the URL.

2. Route :- The `Route` component defines a mapping between a URL path and a React component. When the URL matches the path defined in a `Route`, the associated component is rendered.

3. Link :- The `Link` component is used to create navigation links within your application. It renders as an anchor tag (`<a>`) and allows users to navigate to different routes.

4. Switch :- The `Switch` component is used to wrap multiple `Route` components. It ensures that only the first `Route` whose path matches the current URL is rendered. This prevents multiple components from rendering simultaneously.

Code:-

App.js

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```javascript
import React from 'react';
import { BrowserRouter as Router, Route, Link, Routes } from 'react-router-dom';
import Home from './components/Home';
import About from './components/About';
import Contact from './components/Contact';
import './App.css';

function App() {
  return (
    <Router>
      <div className="app-container">
        <nav>
          <ul>
            <li>
              <Link to='/Home' className='nav-link'>Home</Link>
            </li>
            <li>
              <Link to='/About' className='nav-link'>About</Link>
            </li>
            <li>
              <Link to='/Contact' className='nav-link'>Contact</Link>
            </li>
          </ul>
        </nav>

        <hr />
        <Routes>

        <Route exact path="/Home" element={< Home />}></Route>
        <Route exact path="/About" element={< About />}></Route>
        <Route exact path="/Contact" element={<Contact />}></Route>
        </Routes>
      </div>
    </Router>
  );
}

export default App;
```
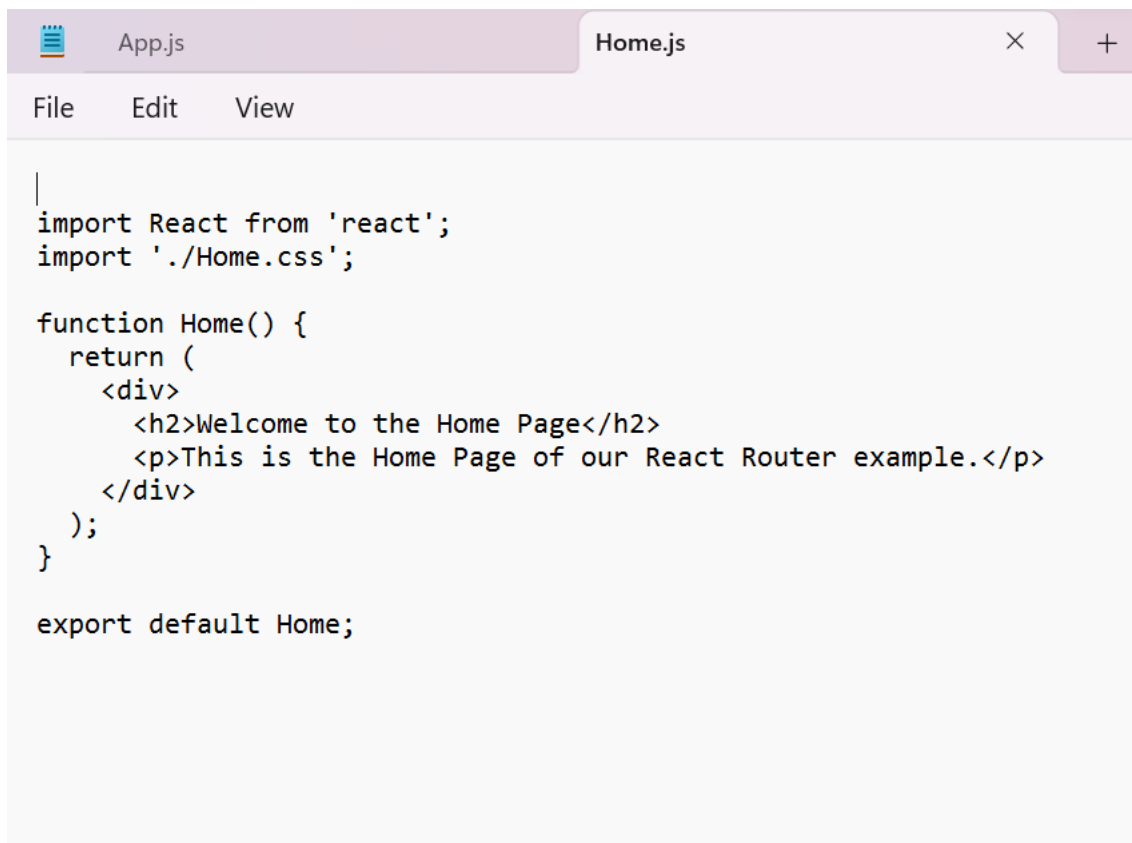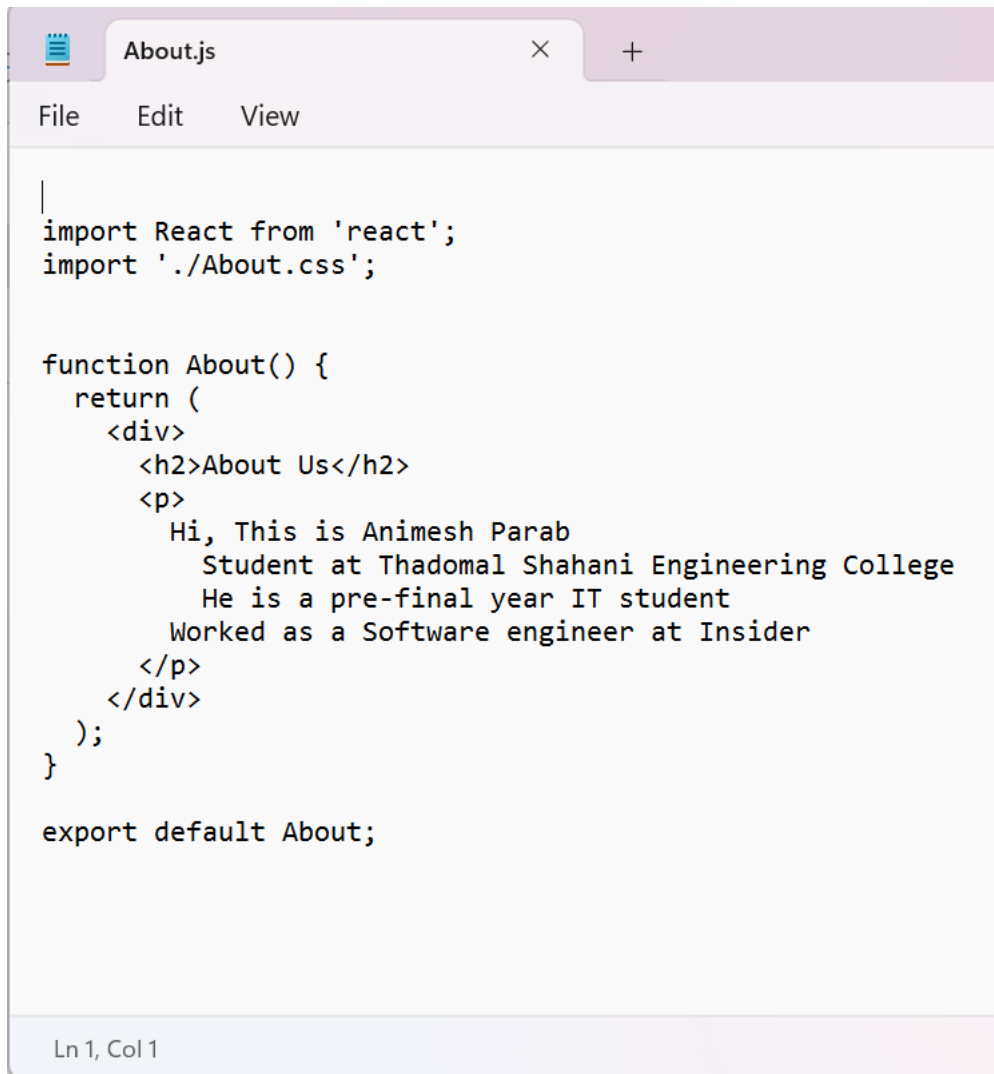
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Home.js

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```
import React from 'react';
import './Home.css';

function Home() {
  return (
    <div>
      <h2>Welcome to the Home Page</h2>
      <p>This is the Home Page of our React Router example.</p>
    </div>
  );
}

export default Home;
```
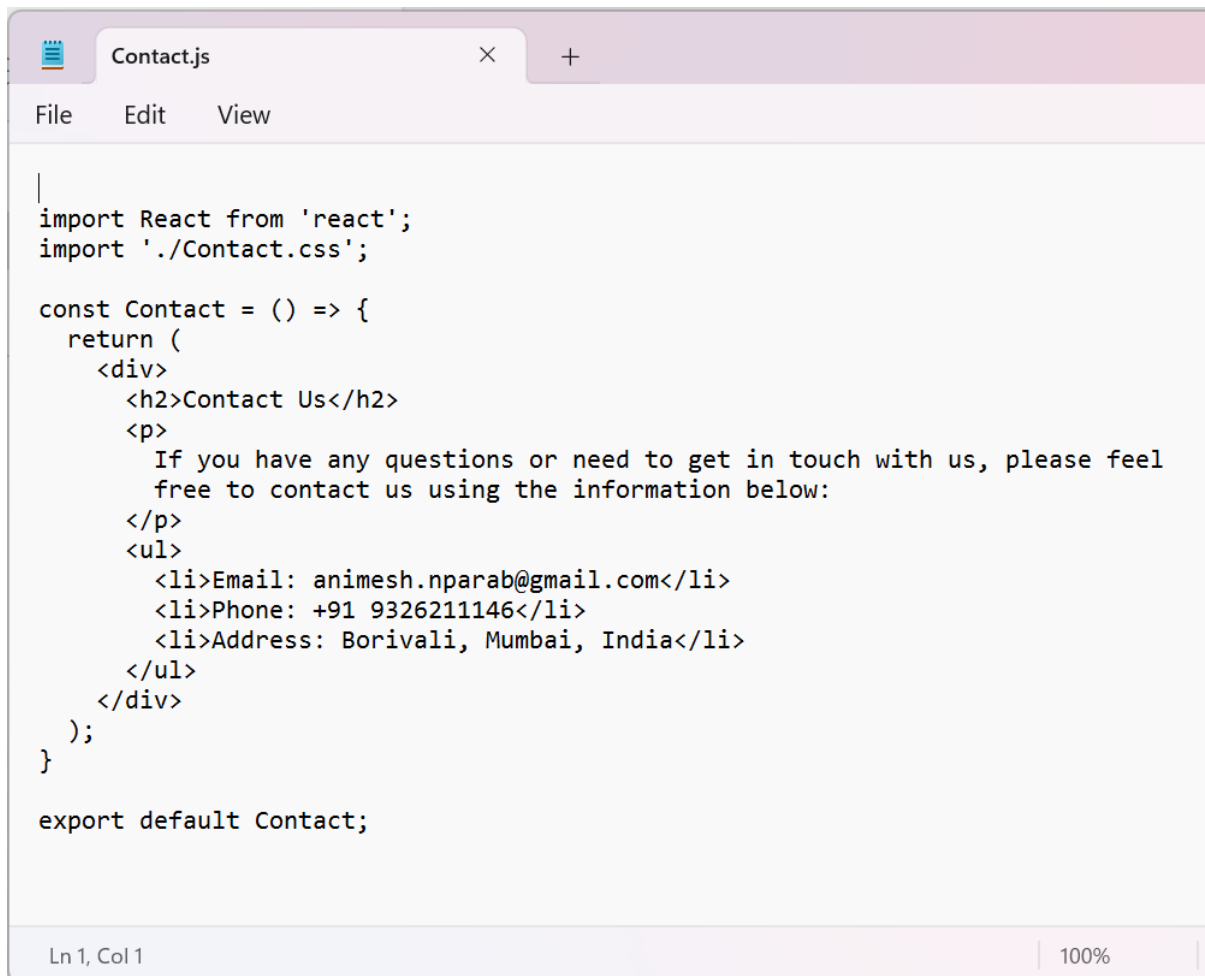
About.js

```
import React from 'react';
import './About.css';


function About() {
  return (
    <div>
      <h2>About Us</h2>
      <p>
        Hi, This is Animesh Parab
          Student at Thadomal Shahani Engineering College
          He is a pre-final year IT student
        Worked as a Software engineer at Insider
      </p>
    </div>
  );
}

export default About;
```

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Contact.js

```
Contact.js                    ×      +

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|
import React from 'react';
import './Contact.css';

const Contact = () => {
  return (
    <div>
      <h2>Contact Us</h2>
      <p>
        If you have any questions or need to get in touch with us, please feel
        free to contact us using the information below:
      </p>
      <ul>
        <li>Email: animesh.nparab@gmail.com</li>
        <li>Phone: +91 9326211146</li>
        <li>Address: Borivali, Mumbai, India</li>
      </ul>
    </div>
  );
}

export default Contact;
```
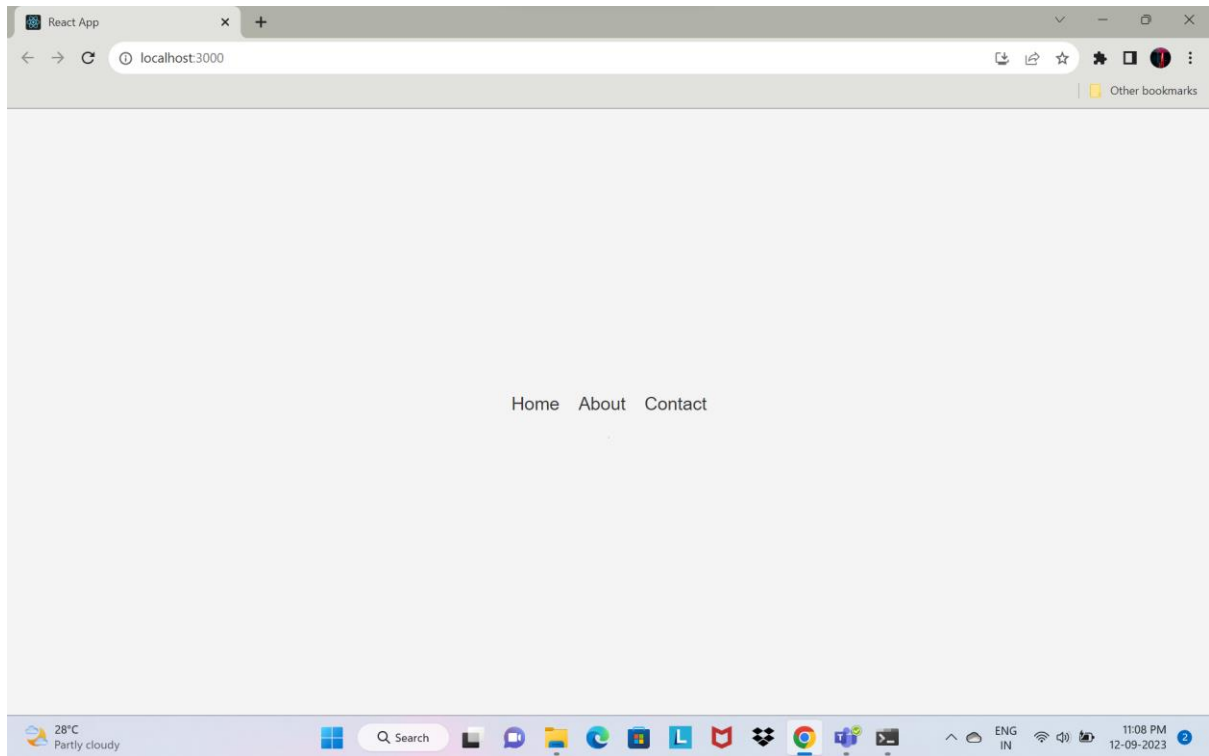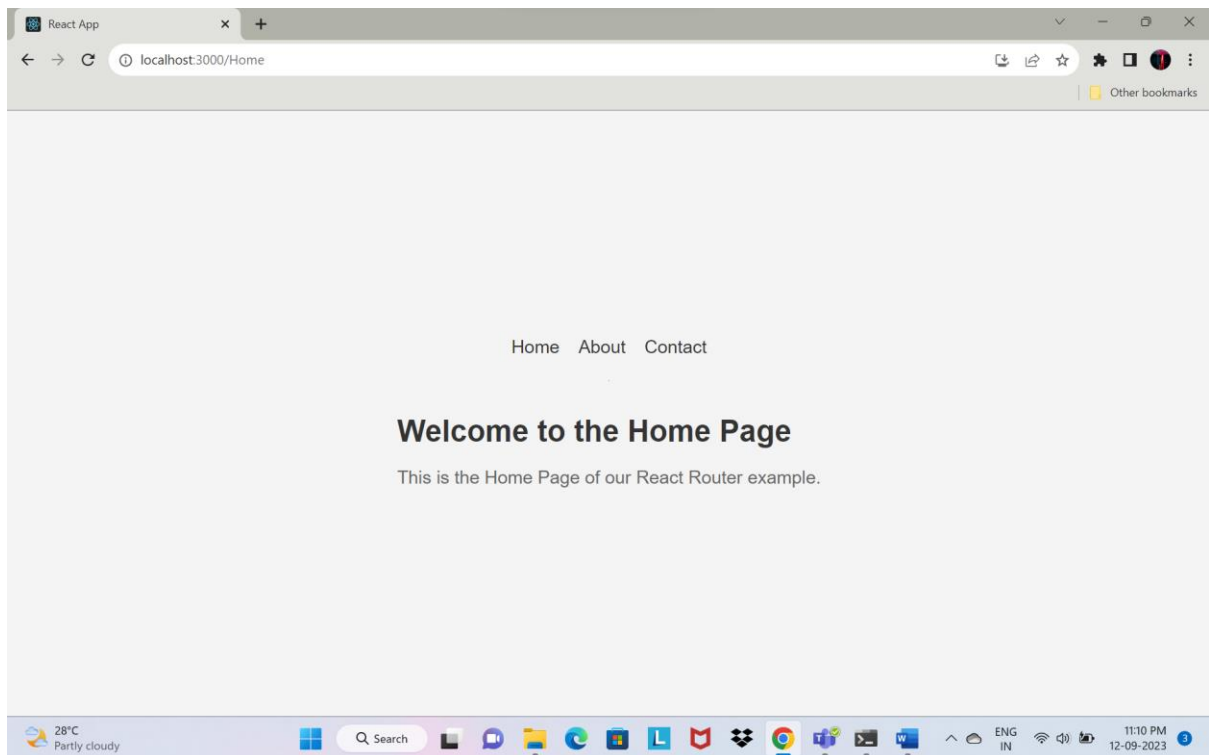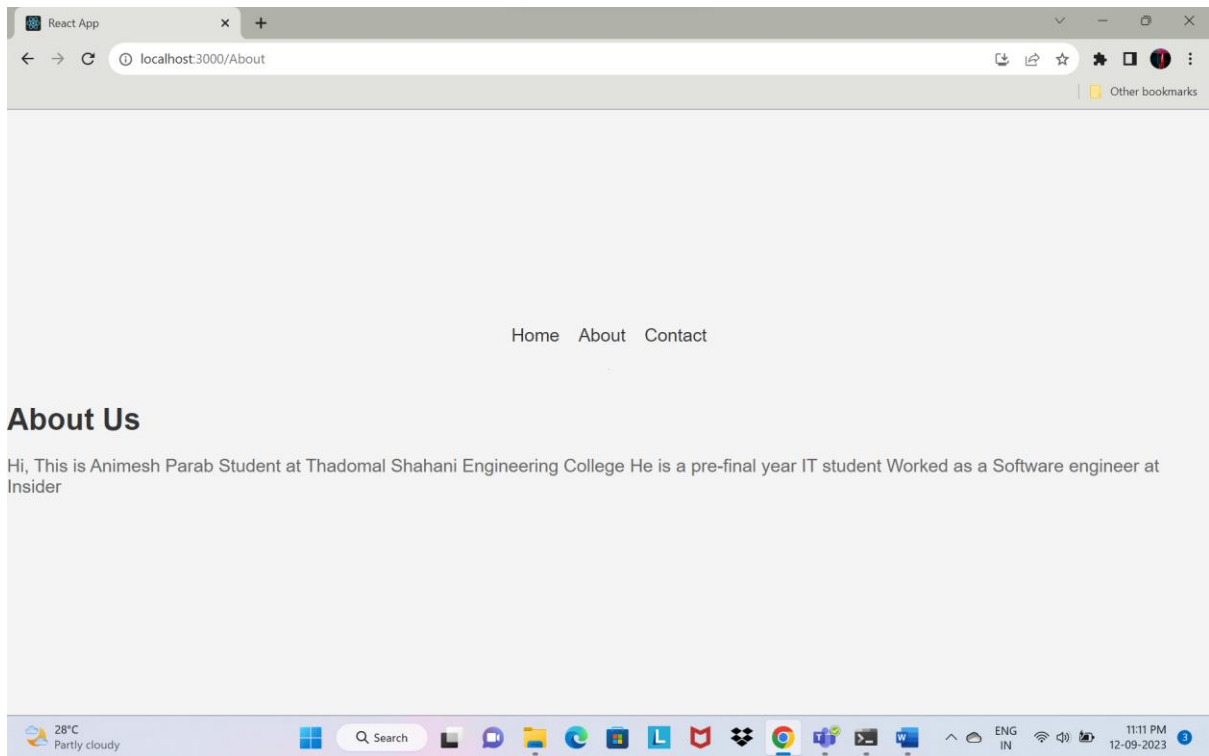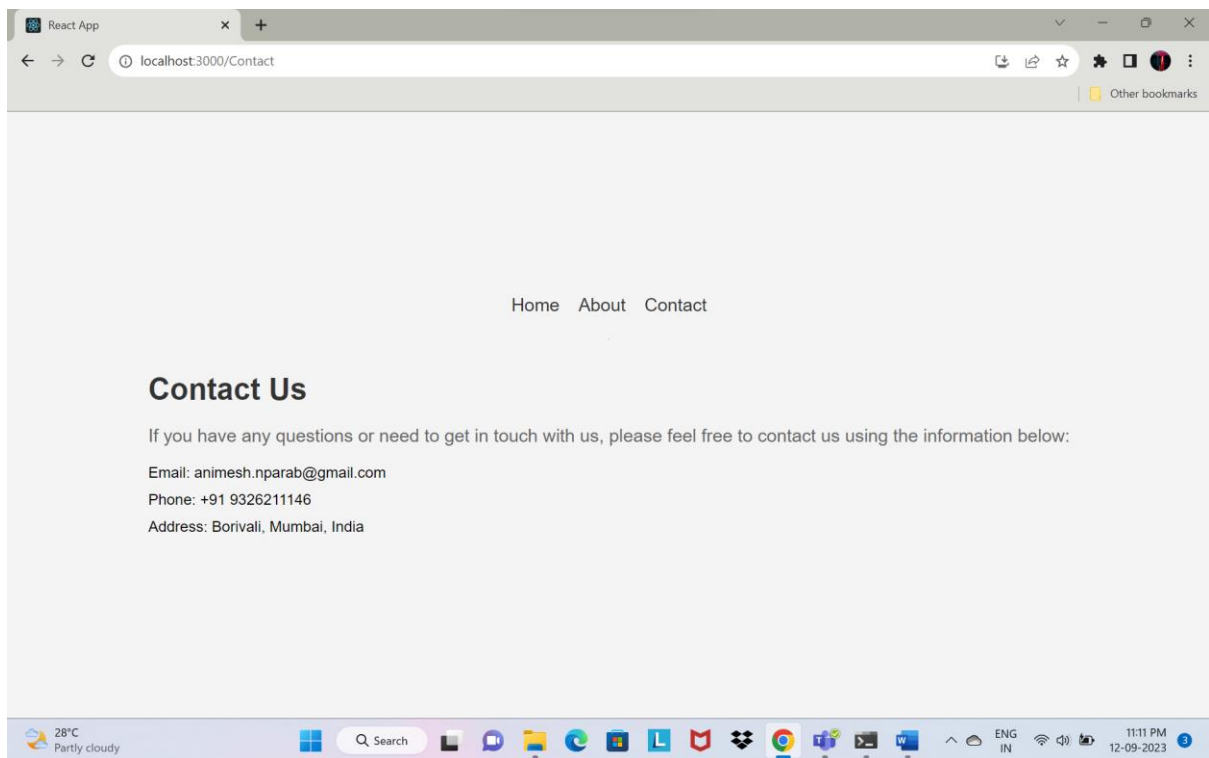
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Out Put:-

After clicking Home Button

After Clicking the About Button

After Clicking Contact Button

Conclusion:-

In this assignment, we explored the fundamentals of implementing routing in a ReactJS application using the React Router library. Routing is essential for creating single-page applications with multiple views and managing navigation seamlessly.