**Department of Statistics & Computer Science**

**University of Kelaniya**

**ACADEMIC YEAR -2023/2024 (Semester ii)**

**Full-Stack Software Development**

**Lab Sheet 07**

**Questions:**

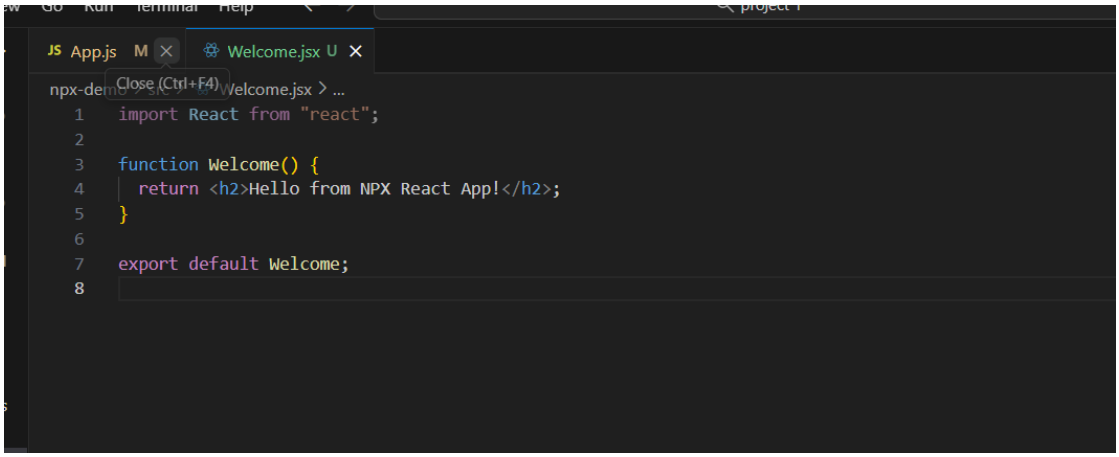
In this lab, you will learn to create React applications using four different methods and practice building small components in each project.

**Task 01**

**Project 1: Create a React App Using NPX + JSX.**

- Open VS Code.
- Open a folder where you want to create your React project (for example, D:\ReactProjects).
- Open the terminal in VS Code:
- Now run these commands one by one inside the VS Code terminal:
    - **npx create-react-app npx-demo**
    - **cd npx-demo**
    - **npm start**

- Inside src/App.js, create a new component called Welcome.jsx.



```
import './App.css';
import Welcome from './Welcome';

function App() {
  return (
    <div className="App">
      <h1>Project 1: NPX Demo</h1>
      <Welcome />
    </div>
  );
}

export default App;
```

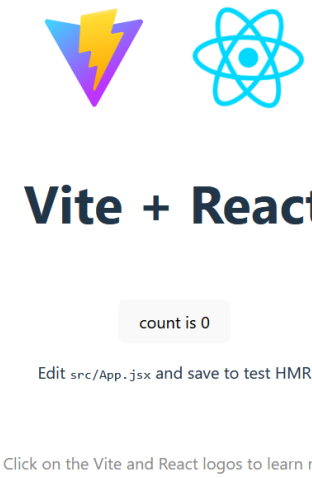
- Save and check the browser output.

**Project 2: Create a React App Using Vite + JSX.**

• Run the following commands:

  - Npm create vite@latest vite-demo
  - cd vite-demo
  - npm install
  - npm run dev

• Select React + Javascript during project creation.



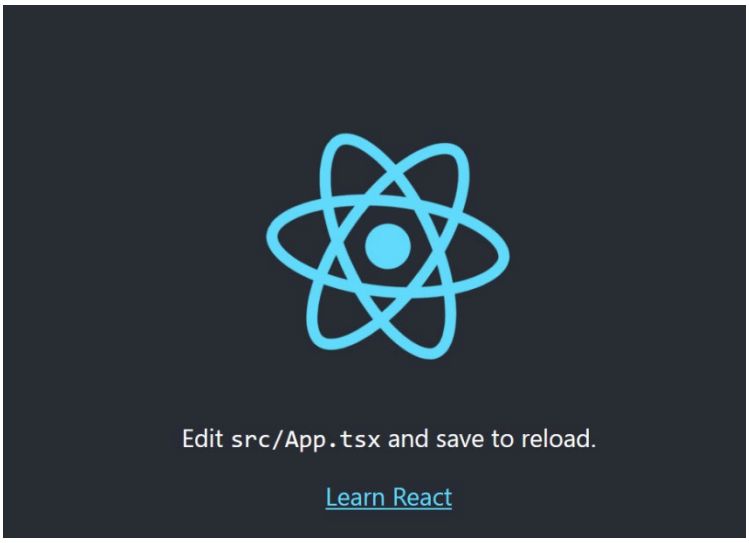
- Open src/app.jsx and add a new component called Box.jsx.



- Save and check the browser output.

**Project 3: Create a React App using NPX + TSX**

- Use the TypeScript template with NPX:
    - npx create-react-app npx-ts-demo --template typescript
    - cd npx-ts-demo
    - npm start




- Open src/App.tsx.
- Create a new component called Message.tsx.

```
npx-ts-demo > src > App.tsx > ...
1  import React from "react";
2  import Message from "./Message";
3
4  function App() {
5    return (
6      <div>
7        <h1>Project 3: NPX TS Demo</h1>
8        <Message />
9      </div>
10   );
11 }
12
13 export default App;
14
```

- Save and check the browser output.

**Project 4: Create a React App using Vite + TSX**

- Npm create vite@latest vite-ts-demo
- cd vite-ts-demo
- npm install
- npm run dev

- Choose React + Typescript during project setup


- Open src/App.tsx and create a new component called Greeting.tsx.

App.tsx 1 | Greeting.tsx 1

vite-demo > src > Greeting.tsx > ...

```jsx
// src/Greeting.jsx
import React from "react";

function Greeting() {
  return <h2>Welcome to Vite React!</h2>;
}

export default Greeting;
```

App.tsx 1 | Greeting.tsx 1

vite-demo > src > App.tsx > ...

```jsx
import React from "react";
import Greeting from "./Greeting";

function App() {
  return (
    <div>
      <h1>Project 2: Vite Demo</h1>
      <Greeting />
    </div>
  );
}

export default App;
```

- Save and check the browser output.

**Task 02**

1. List two different ways to create a React app.
2. Explain the difference between. jsx and .tsx files.
3. What is the purpose of the node_modules/ folder in a React project?
4. List two important files found inside the public/ folder and explain their roles.
5. What is the function of the index.html file in a React app?
6. What is the purpose of the src/ folder?
7. Take the screenshots of your updated app running in the browser.

**Submission Guidelines:**

**• Prepare a Word document named "PS/XXXX/XXX_Tutorial07" or "EC/XXXX/XXX_Tutorial07".**

**• Include the following elements:**

**▪ Header with your student number, Tutorial Number and course code.**

**▪ Screenshots of your work.**

**▪ Footer with page number.**