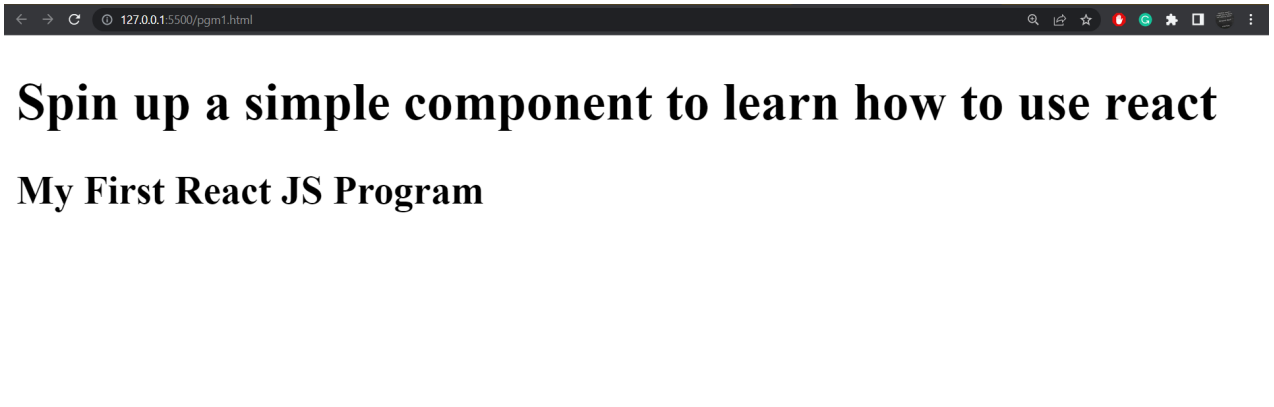
React.js
Practice Sheet
Lab sheet no.13

Program 1:

Create a basis application to learn how react works

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Program 1</title>
    <script
src="https://unpkg.com/react@18/umd/react.development.js"></script>
    <script
src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
  </head>
  <body>
    <div id="root"></div>
    <script type="text/babel">
      function MyApp() {
        return (
          <div>
            <h1>Spin up a simple component to learn how to use react</h1>
            <h2>My First React JS Program</h2>
          </div>
        );
      }
      const container = document.getElementById("root");
      const root = ReactDOM.createRoot(container);
      root.render(<MyApp />);
    </script>
  </body>
</html>
```

Output:


127.0.0.1:5500/pgm1.html
Spin up a simple component to learn how to use react
My First React JS Program

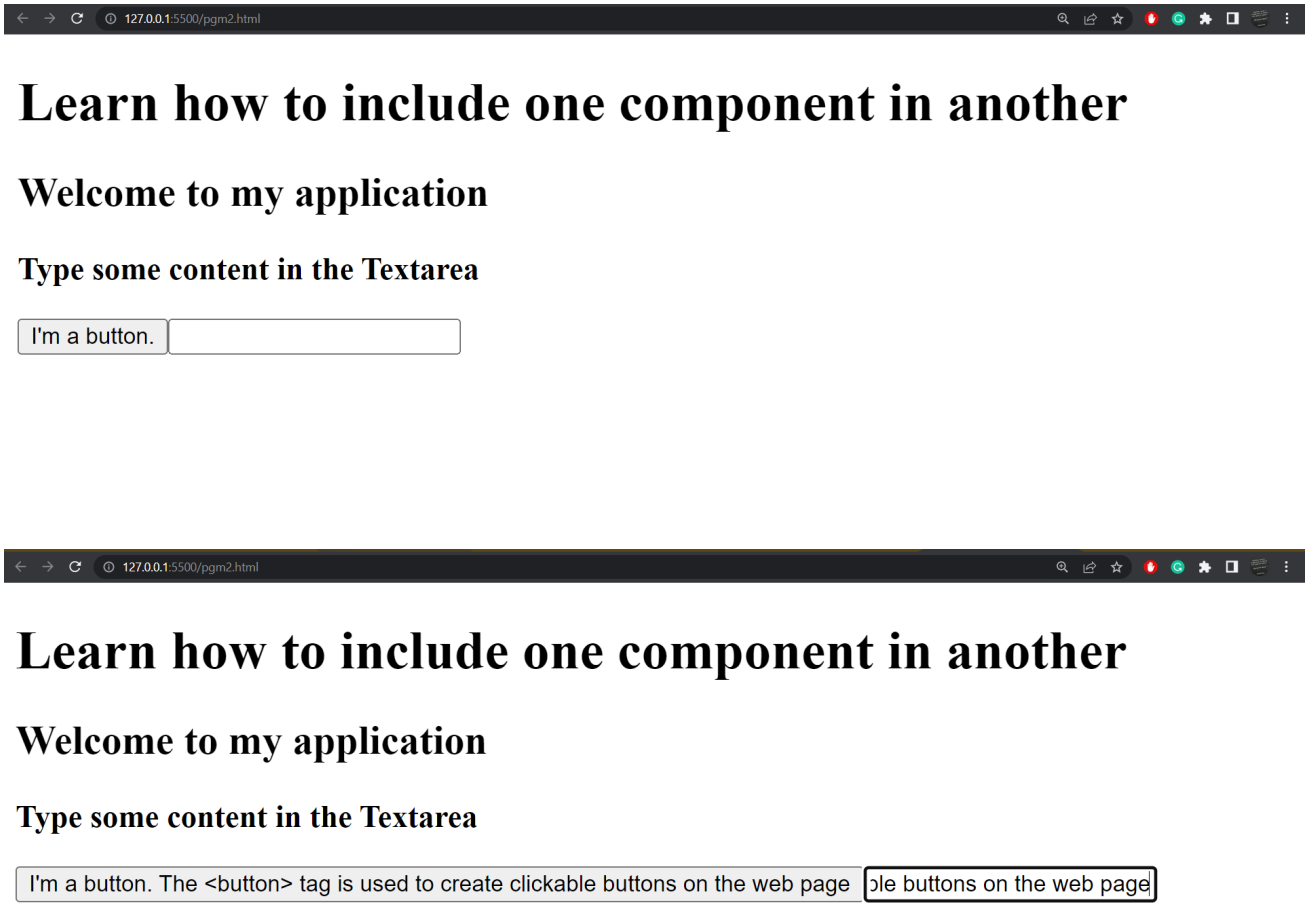
Program 2:

Learn how to include one component in another

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Program 2</title>
    <script
src="https://unpkg.com/react@18/umd/react.development.js"></script>
    <script
src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
  </head>
  <body>
    <h1>Learn how to include one component in another</h1>
    <div id="root"></div>
    <script type="text/babel">
      const { useState } = React;

      function MyButton(props) {
        return <button>I'm a button. {props.text}</button>;
      }

      function MyInput(props) {
        return <input onChange={() => props.setText(event.target.value)} />;
      }

      function MyApp() {
        const [text, setText] = useState("");

        return (
          <div>
            <h2>Welcome to my application</h2>
            <h3>Type some content in the Textarea</h3>
            <MyButton text={text} />
            <MyInput setText={setText} />
          </div>
        );
      }

      const container = document.getElementById("root");
```

```
      const root = ReactDOM.createRoot(container);
      root.render(<MyApp />);
    </script>
  </body>
</html>
```

Output:



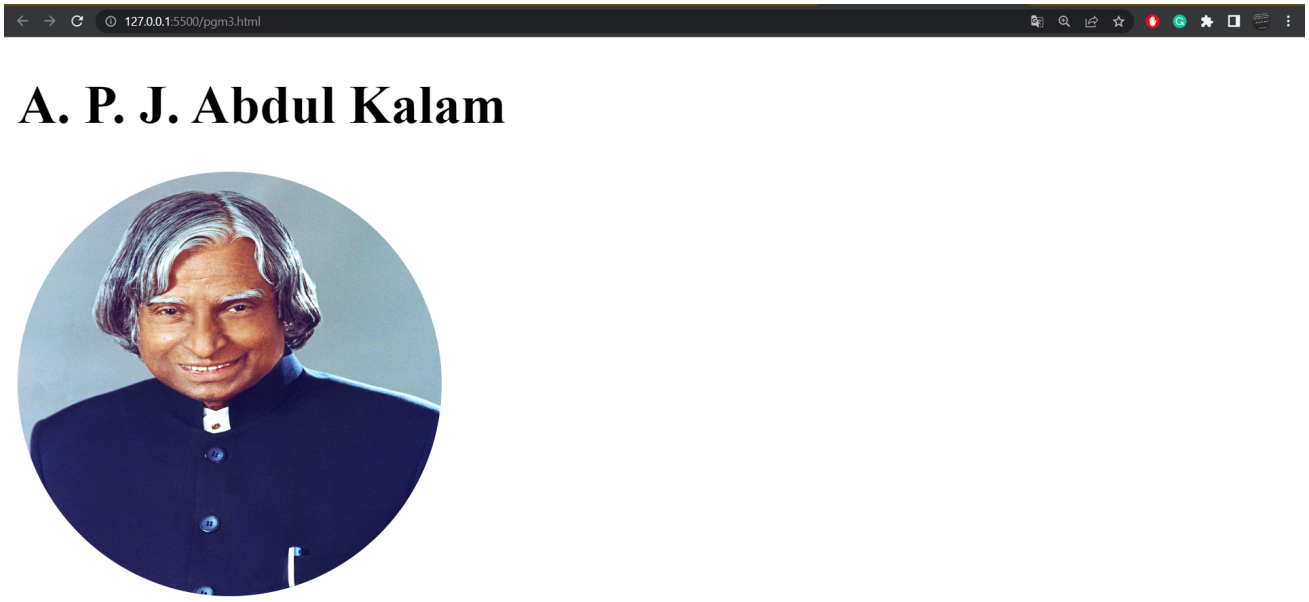
Program 3:

Learn how to write JSX and apply styles to components and manage state

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Program 3</title>
    <script
src="https://unpkg.com/react@18/umd/react.development.js"></script>
    <script
src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>

    <style>
      .avatar {
        border-radius: 50%;
      }
    </style>
  </head>
  <body>
    <div id="root"></div>
    <script type="text/babel">
      const user = {
        name: "A. P. J. Abdul Kalam",
        imageUrl:

"https://upload.wikimedia.org/wikipedia/commons/thumb/6/6e/A._P._J._Abdul_Kal
am.jpg/800px-A._P._J._Abdul_Kalam.jpg",
        imageSize: 250,
      };

      function MyApp() {
        return (
          <>
            <h1>{user.name}</h1>
            <img
              className="avatar"
              src={user.imageUrl}
              alt={"Photo of " + user.name}
              style={{
                width: user.imageSize,
```

```
                height: user.imageSize,
              }}
            />
          </>
        );
      }

      const container = document.getElementById("root");
      const root = ReactDOM.createRoot(container);
      root.render(<MyApp />);
    </script>
  </body>
</html>
```

Output:



Program 4:

Create an arithmetic calculator using react

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Program 4</title>
    <script
src="https://unpkg.com/react@18/umd/react.development.js"></script>
    <script
src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
  </head>
  <body>
    <div id="root"></div>
    <script type="text/babel">
      const { useState } = React;

      function Calculator() {
        const [firstNumber, setFirstNumber] = useState(0);
        const [secondNumber, setSecondNumber] = useState(0);
        const [result, setResult] = useState(0);

        return (
          <>
            <h1>Calculator</h1>
            <input type='number' value={firstNumber} onChange={(e) =>
setFirstNumber(parseInt(e.target.value))} />
            <input type='number' value={secondNumber} onChange={(e) =>
setSecondNumber(parseInt(e.target.value))} />
            <button onClick={() => setResult(firstNumber +
secondNumber)}>Add</button>
            <button onClick={() => setResult(firstNumber -
secondNumber)}>Subtract</button>
            <button onClick={() => setResult(firstNumber *
secondNumber)}>Multiply</button>
            <button onClick={() => setResult(firstNumber /
secondNumber)}>Divide</button>
            <h2>Result: {result}</h2>
          </>
        );
      }
```

```
      const container = document.getElementById('root');
      const root = ReactDOM.createRoot(container);
      root.render(<Calculator />);
    </script>
  </body>
</html>
```

Output:

Calculator

10 | 8 | Add | Subtract | Multiply | Divide

Result: 18

Calculator

10 | 8 | Add | Subtract | Multiply | Divide

Result: 2

Calculator

10 | 8 | Add | Subtract | Multiply | Divide

Result: 80

Calculator

10 | 8 | Add | Subtract | Multiply | Divide

Result: 1.25

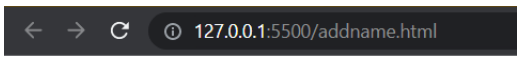
Program 5:

Generate random names from an API using react

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8" />
    <title>Program 5</title>
    <script
src="https://unpkg.com/react@18/umd/react.development.js"></script>
    <script
src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"></script>

    <script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
  </head>
  <body>
    <div id="root"></div>
    <script type="text/babel">
      const { useState, useEffect } = React;

      function NamesList() {
        const [names, setNames] = useState([]);

        useEffect(() => {
          fetch('https://randomuser.me/api/?results=10')
            .then((response) => response.json())
            .then((data) => {
              setNames(data.results);
            });
        }, []);

        const addName = () => {
          fetch('https://randomuser.me/api/')
            .then((response) => response.json())
            .then((data) => {
              setNames([...names, ...data.results]);
            });
        };

        return (
          <>
            <h1>Names List</h1>
            <button onClick={addName}>Add Name</button>
            <ul>
```

```
            {names.map((name) => (
              <li key={name.login.uuid}>
                {name.name.first} {name.name.last}
              </li>
            ))}
          </ul>
        </>
      );
    }

    const container = document.getElementById('root');
    const root = ReactDOM.createRoot(container);
    root.render(<NamesList />);
  </script>
</body>
</html>
```

Output:



Names List

Add Name

- Aïmane Vredeveld
- Aurelino Gonçalves
- Konsta Jokela
- Abel Esquivel
- Cesar Alonso
- Marc Terry
- Ceyhun Ozansoy
- Kjell Høgset
- Lydia Talberg
- Cléa Lemaire