Q1.

About.js:

```
import React from 'react';

function About() {
  return (
    <div className="container">
      <h1 className="display-4">About Us</h1>
      <p className="lead">This iss about page.</p>
    </div>
  );
}

export default About;
```

Contact.js

```
import React from 'react';

function Contact() {
  return (
    <div className="container">
      <h1 className="display-4">Contact Us</h1>
      <p className="lead">You can contact us using the form below:</p>
      <form>
        <div className="mb-3">
          <label htmlFor="name" className="form-label">Name</label>
          <input type="text" className="form-control" id="name" />
        </div>
        <div className="mb-3">
          <label htmlFor="email" className="form-label">Email address</label>
          <input type="email" className="form-control" id="email" />
        </div>
        <div className="mb-3">
          <label htmlFor="message" className="form-label">Message</label>
          <textarea className="form-control" id="message" rows="5"></textarea>
        </div>
        <button type="submit" className="btn btn-primary">Submit</button>
      </form>
    </div>
```

```
  );
}

export default Contact;
```

Home.js

```
import React from 'react';

function Home() {
  return (
    <div className="container">
      <h1 className="display-4">Welcome to my Single-Page Application!</h1>
      <p className="lead">This is the Home page.</p>
    </div>
  );
}

export default Home;
```

App.js:

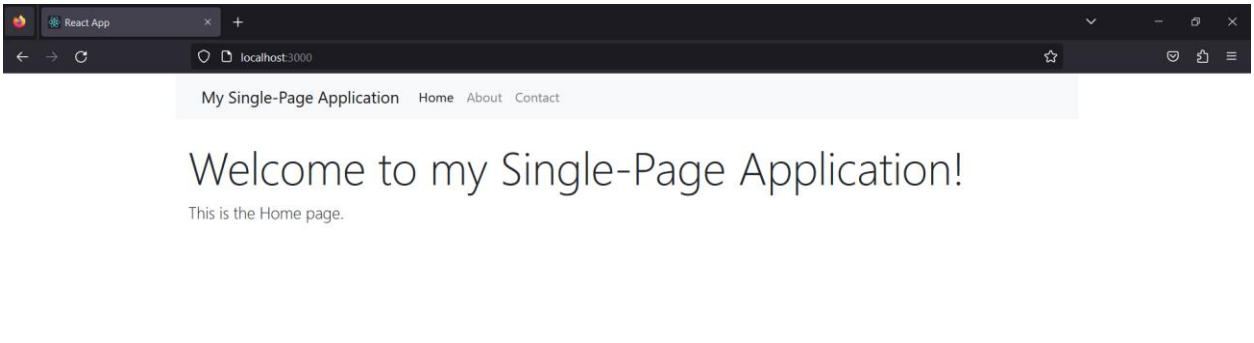
```
import React, { useState } from 'react';
import Home from './components/Home';
import About from './components/About';
import Contact from './components/Contact';

function App() {
  const [activeComponent, setActiveComponent] = useState('home');

  const renderComponent = () => {
    switch (activeComponent) {
      case 'home':
        return <Home />;
      case 'about':
        return <About />;
      case 'contact':
```

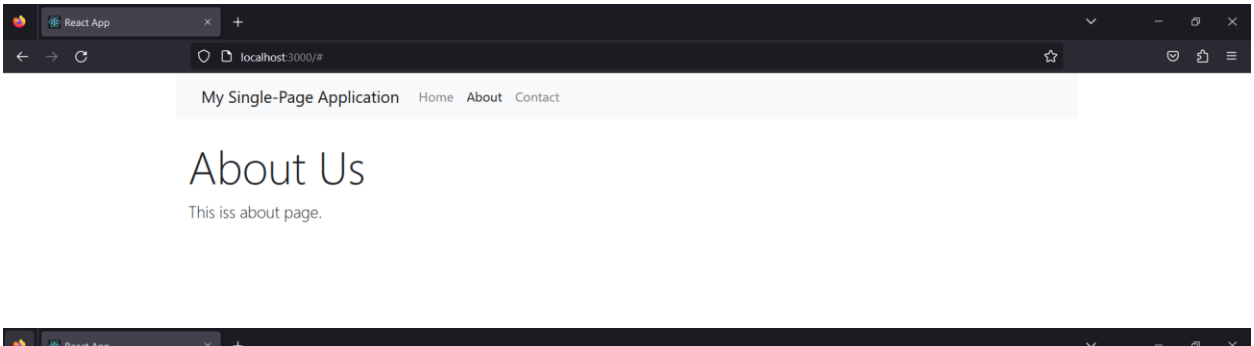
```
        return <Contact />;
      default:
        return null;
    }
  };

  return (
    <div className="container">
      <nav className="navbar navbar-expand-lg navbar-light bg-light">
        <div className="container-fluid">
          <a className="navbar-brand" href="#">My Single-Page Application</a>
          <button className="navbar-toggler" type="button" data-bs-
toggle="collapse" data-bs-target="#navbarNav" aria-controls="navbarNav" aria-
expanded="false" aria-label="Toggle navigation">
            <span className="navbar-toggler-icon"></span>
          </button>
          <div className="collapse navbar-collapse" id="navbarNav">
            <ul className="navbar-nav">
              <li className={`nav-item ${activeComponent === 'home' ? 'active' :
''}`} onClick={() => setActiveComponent('home')}>
                <a className="nav-link" href="#">Home</a>
              </li>
              <li className={`nav-item ${activeComponent === 'about' ? 'active' :
''}`} onClick={() => setActiveComponent('about')}>
                <a className="nav-link" href="#">About</a>
              </li>
              <li className={`nav-item ${activeComponent === 'contact' ? 'active'
: ''}`} onClick={() => setActiveComponent('contact')}>
                <a className="nav-link" href="#">Contact</a>
              </li>
            </ul>
          </div>
        </div>
      </nav>
      <main className="mt-4">
        {renderComponent()}
      </main>
    </div>
  );
}

export default App;
```

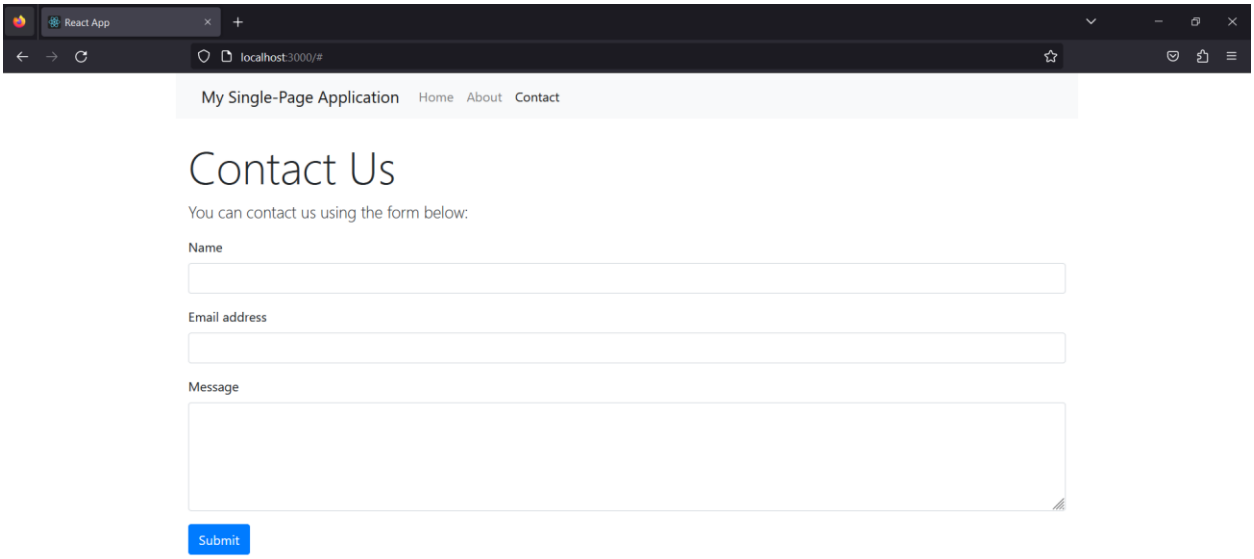
Index.js:

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import './index.css';
import App from './App';
import reportWebVitals from './reportWebVitals';
import { BrowserRouter } from 'react-router-dom';
import './bootstrap.min.css';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <App />
  </React.StrictMode>
);

// If you want to start measuring performance in your app, pass a function
// to log results (for example: reportWebVitals(console.log))
// or send to an analytics endpoint. Learn more: https://bit.ly/CRA-vital
```

OUTPUTS:


React App
localhost:3000
My Single-Page Application
Home
About
Contact
Welcome to my Single-Page Application!
This is the Home page.


React App
localhost:3000/#
My Single-Page Application
Home
About
Contact
About Us
This iss about page.


React App
localhost:3000/#
My Single-Page Application
Home
About
Contact
Contact Us
You can contact us using the form below:
Name
Email address
Message
Submit

Q2:

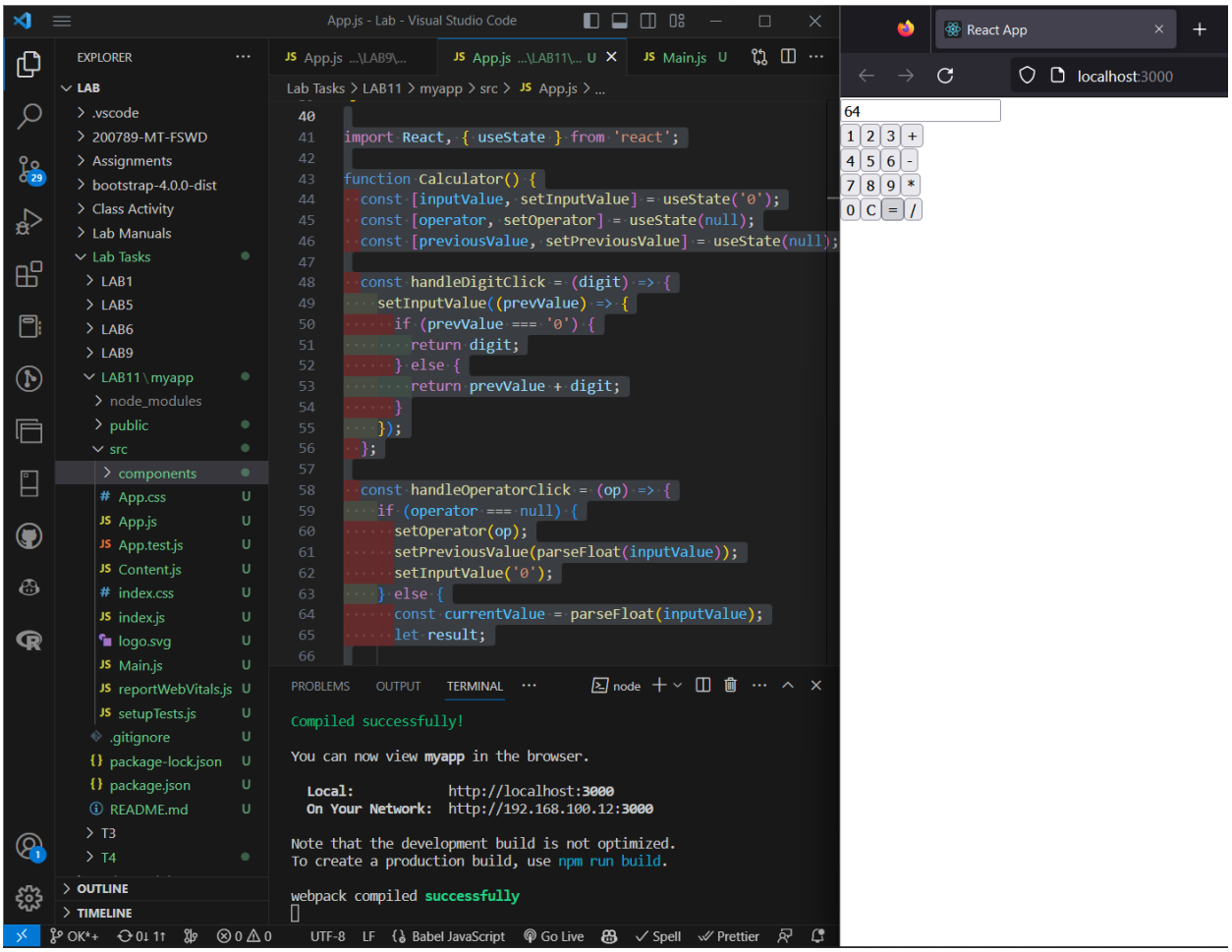
App.js:

```
import React, { useState } from 'react';

function Calculator() {
  const [inputValue, setInputValue] = useState('0');
  const [operator, setOperator] = useState(null);
  const [previousValue, setPreviousValue] = useState(null);

  const handleDigitClick = (digit) => {
    setInputValue((prevValue) => {
      if (prevValue === '0') {
        return digit;
      } else {
        return prevValue + digit;
      }
    });
  };

  const handleOperatorClick = (op) => {
    if (operator === null) {
      setOperator(op);
      setPreviousValue(parseFloat(inputValue));
      setInputValue('0');
    } else {
      const currentValue = parseFloat(inputValue);
      let result;

      switch (operator) {
        case '+':
          result = previousValue + currentValue;
          break;
        case '-':
          result = previousValue - currentValue;
          break;
        case '*':
          result = previousValue * currentValue;
          break;
        case '/':
          result = previousValue / currentValue;
```

```
        break;
      default:
        result = currentValue;
    }

    setOperator(op);
    setPreviousValue(result);
    setInputValue('0');
  }
};

const handleEqualsClick = () => {
  const currentValue = parseFloat(inputValue);
  let result;

  switch (operator) {
    case '+':
      result = previousValue + currentValue;
      break;
    case '-':
      result = previousValue - currentValue;
      break;
    case '*':
      result = previousValue * currentValue;
      break;
    case '/':
      result = previousValue / currentValue;
      break;
    default:
      result = currentValue;
  }

  setInputValue(result.toString());
  setOperator(null);
  setPreviousValue(null);
};

const handleClearClick = () => {
  setInputValue('0');
  setOperator(null);
  setPreviousValue(null);
};

return (
  <div>
```

```
      <input type="text" value={inputValue} readOnly />
      <div>
        <button onClick={() => handleDigitClick('1')}>1</button>
        <button onClick={() => handleDigitClick('2')}>2</button>
        <button onClick={() => handleDigitClick('3')}>3</button>
        <button onClick={() => handleOperatorClick('+')}>+</button>
      </div>
      <div>
        <button onClick={() => handleDigitClick('4')}>4</button>
        <button onClick={() => handleDigitClick('5')}>5</button>
        <button onClick={() => handleDigitClick('6')}>6</button>
        <button onClick={() => handleOperatorClick('-')}>-</button>
      </div>
      <div>
        <button onClick={() => handleDigitClick('7')}>7</button>
        <button onClick={() => handleDigitClick('8')}>8</button>
        <button onClick={() => handleDigitClick('9')}>9</button>
        <button onClick={() => handleOperatorClick('*')}>*</button>
      </div>
      <div>
        <button onClick={() => handleDigitClick('0')}>0</button>
        <button onClick={() => handleClearClick()}>C</button>
        <button onClick={() => handleEqualsClick()}>=</button>
        <button onClick={() => handleOperatorClick('/')}>/</button>
      </div>
    </div>

  );
}

export default Calculator;
```

Output:


App.js - Lab - Visual Studio Code
EXPLORER
LAB
.vscode
200789-MT-FSWD
Assignments
bootstrap-4.0.0-dist
Class Activity
Lab Manuals
Lab Tasks
LAB1
LAB5
LAB6
LAB9
LAB11\myapp
node_modules
public
src
components
App.css
App.js
App.test.js
Content.js
index.css
index.js
logo.svg
Main.js
reportWebVitals.js
setupTests.js
.gitignore
package-lock.json
package.json
README.md
T3
T4
OUTLINE
TIMELINE
App.js ...\LAB9\...
App.js ...\LAB11\... U
Main.js U
Lab Tasks > LAB11 > myapp > src > App.js > ...
40
41 import React, { useState } from 'react';
42
43 function Calculator() {
44 const [inputValue, setInputValue] = useState('0');
45 const [operator, setOperator] = useState(null);
46 const [previousValue, setPreviousValue] = useState(null);
47
48 const handleDigitClick = (digit) => {
49 setInputValue((prevValue) => {
50 if (prevValue === '0') {
51 return digit;
52 } else {
53 return prevValue + digit;
54 }
55 });
56 };
57
58 const handleOperatorClick = (op) => {
59 if (operator === null) {
60 setOperator(op);
61 setPreviousValue(parseFloat(inputValue));
62 setInputValue('0');
63 } else {
64 const currentValue = parseFloat(inputValue);
65 let result;
66
PROBLEMS
OUTPUT
TERMINAL
node
Compiled successfully!
You can now view myapp in the browser.
Local: http://localhost:3000
On Your Network: http://192.168.100.12:3000
Note that the development build is not optimized.
To create a production build, use npm run build.
webpack compiled successfully
OK*+
0↓ 1↑
0 0
UTF-8
LF
Babel JavaScript
Go Live
Spell
Prettier
React App
localhost:3000
64
1 2 3 +
4 5 6 -
7 8 9 *
0 C = /