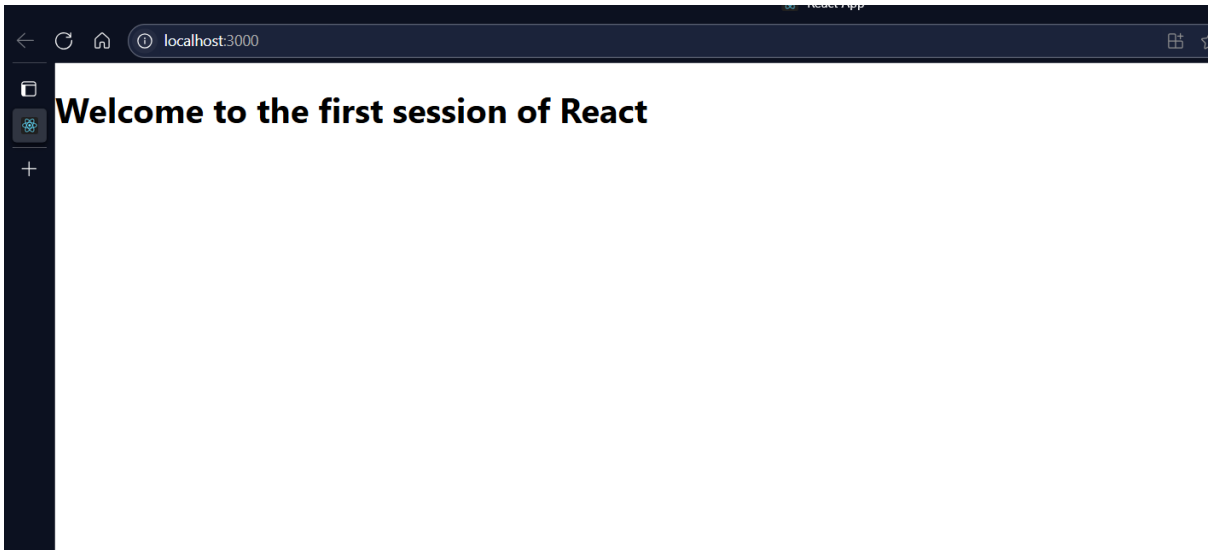
1. Setting up a react-working environment:

App.js code:

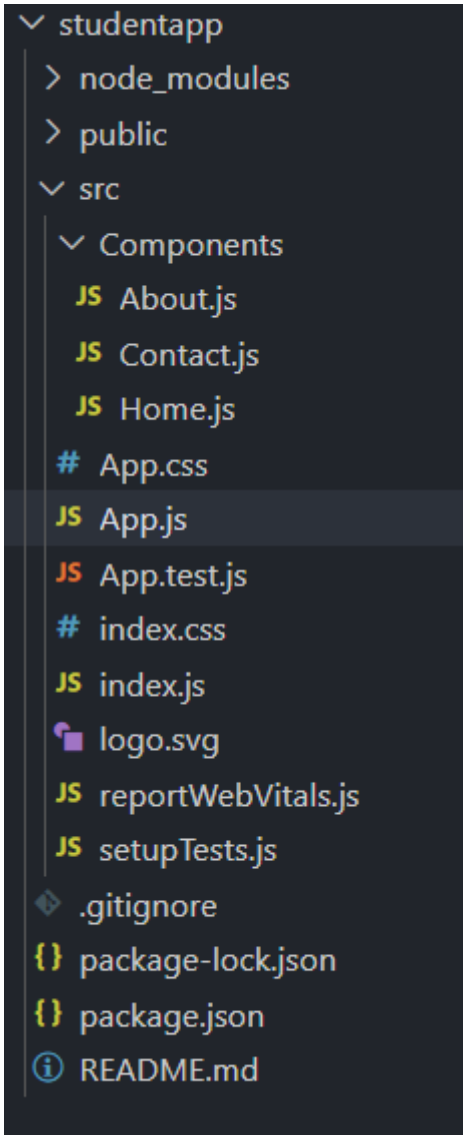
```
import React from 'react';

function App() {
  return (
    <div>
      <h1>Welcome to the first session of React</h1>
    </div>
  );
}

export default App;
```

OUTPUT:



2. Create a react app for Student Management Portal:

File Structure:



App.js

```
import React from "react";
import Home from "./Components/Home";
import About from "./Components/About";
import Contact from "./Components/Contact";

function App() {
 return (
  <div>
   <Home />
   <About />
```

```
    <Contact />
   </div>
  );
}

export default App;
```

Contact.js

```
import React, { Component } from "react";

class Contact extends Component {
 render() {
  return (
   <div>
    <h1>Welcome to the Contact page of the Student Management Portal</h1>
   </div>
  );
 }
}

export default Contact;
```

About.js

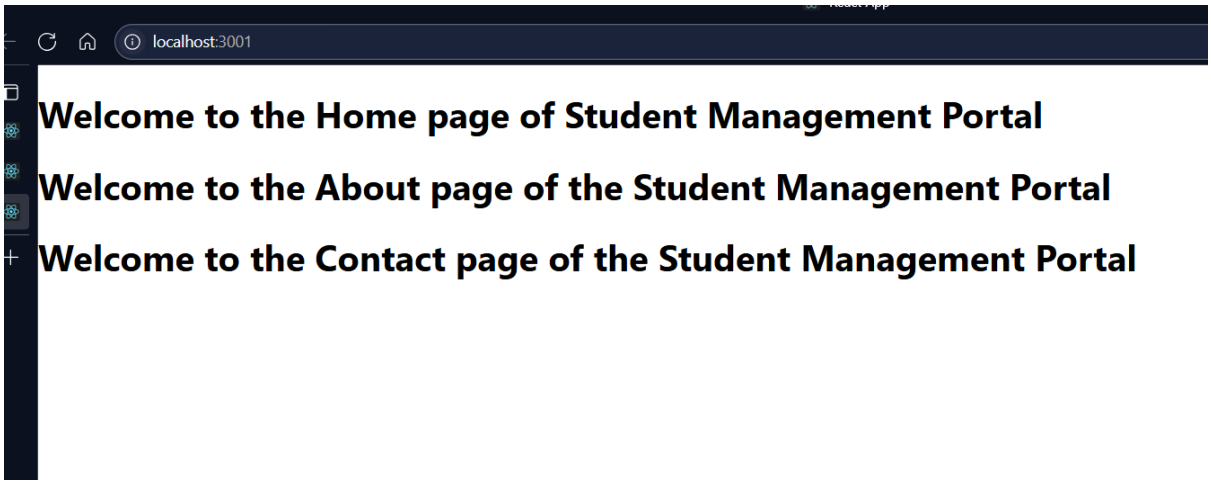
```
import React, { Component } from "react";

class About extends Component {
 render() {
  return (
   <div>
    <h1>Welcome to the About page of the Student Management Portal</h1>
   </div>
  );
 }
}

export default About;
```

Home.js

```
import React, { Component } from "react";

class Home extends Component {
 render() {
  return (
   <div>
    <h1>Welcome to the Home page of Student Management Portal</h1>
```

```
    </div>
   );
 }
}
export default Home;
```

OUTPUT:



3. Create a react app for Student Management Portal named scorecalculatorapp.

CalculateScore.js

```
import "../StyleSheet/mystyle.css";

const percentToDecimal = (decimal) => {
 return (decimal * 100).toFixed(2) + "%";
};

const calcScore = (total, goal) => {
 return percentToDecimal(total / goal);
};

export const CalculateScore = ({ Name, School, total, goal }) => (
 <div className="formatstyle">
  <h1>
   <font color="Brown">Student Details:</font>
  </h1>

  <div className="Name">
   <b>
    <span>Name: </span>
   </b>
   <span>{Name}</span>
  </div>
```

```
   <div className="School">
    <b>
     <span>School: </span>
    </b>
    <span>{School}</span>
   </div>

   <div className="Total">
    <b>
     <span>Total: </span>
    </b>
    <span>{total}</span> Marks
   </div>

   <div className="Score">
    <b>Score: </b>
    <span>{calcScore(total, goal)}</span>
   </div>
  </div>
);
```

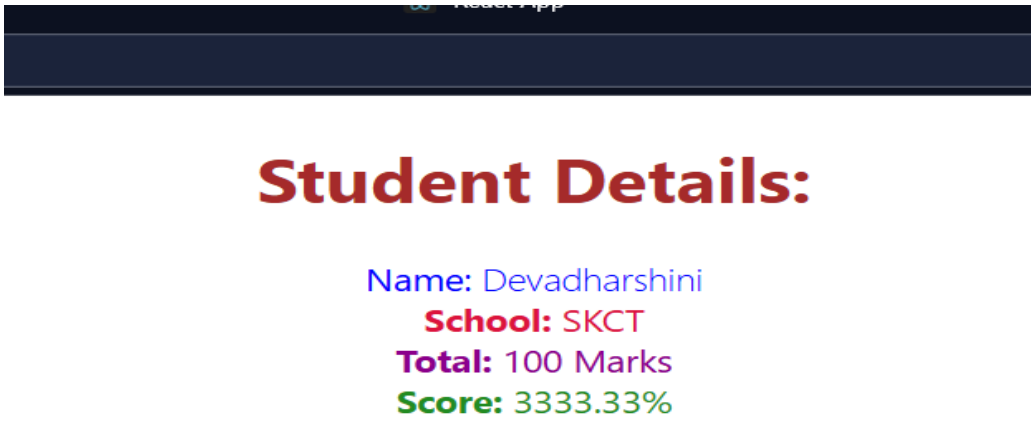
Mystyle.css

```
.Name {
  font-weight: 300;
  color: blue;
}

.School {
  color: crimson;
}

.Total {
  color: darkmagenta;
}

.formatstyle {
  text-align: center;
  font-size: large;
}

.Score {
  color: forestgreen;
}
```

App.js

```
import { CalculateScore } from "./Components/CalculateScore";

function App() {
 return (
  <div>
   <CalculateScore Name="Devadharshini" School="SKCT" total={100} goal={3} />
  </div>
 );
}

export default App;
```

OUTPUT:



4. Create a new react application with the name as “blogapp”:

Posts.js

```
import React, { Component } from 'react';
import Post from './Post';

class Posts extends Component {
 constructor(props) {
  super(props);
  this.state = {
   posts: [],
   error: null
  };
```

```
  }

  async loadPosts() {
    try {
      const response = await fetch('https://jsonplaceholder.typicode.com/posts');
      const data = await response.json();
      const posts = data.map(item => new Post(item.id, item.title, item.body));
      this.setState({ posts });
    } catch (error) {
      this.setState({ error });
    }
  }

  componentDidMount() {
    this.loadPosts();
  }

  componentDidCatch(error, info) {
    alert("An error occurred while rendering the component.");
    console.error(error, info);
  }

  render() {
    const { posts, error } = this.state;

    if (error) {
      return <h2>Error loading posts.</h2>;
    }

    return (
      <div>
        <h1>Blog Posts</h1>
        {posts.map(post => (
          <div key={post.id} style={{ marginBottom: '1rem' }}>
            <h2>{post.title}</h2>
            <p>{post.body}</p>
          </div>
        ))}
      </div>
    );
  }
}

export default Posts;
```

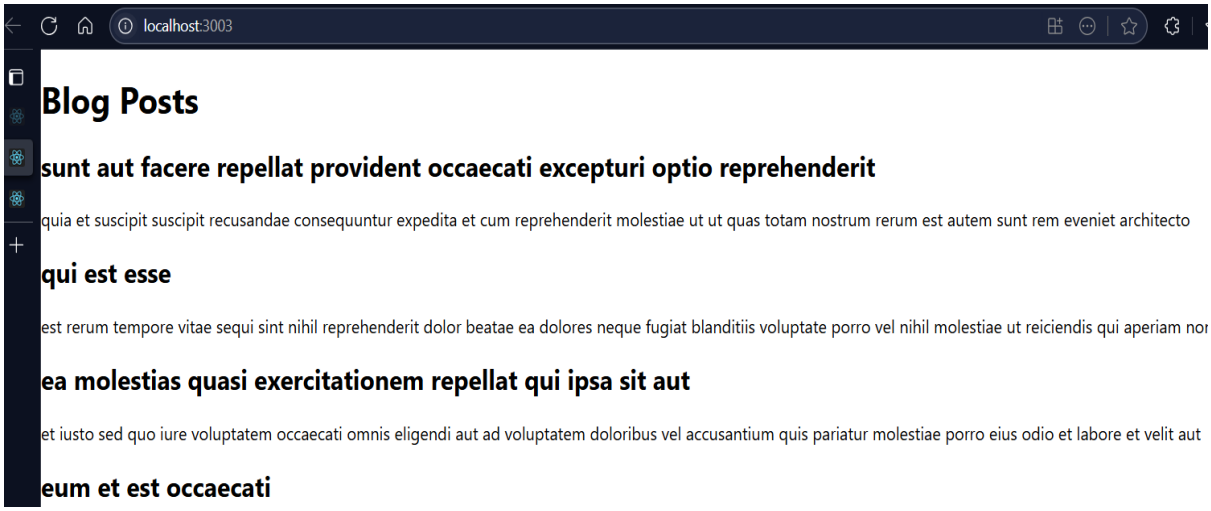
Post.js

```
class Post {
 constructor(id, title, body) {
  this.id = id;
  this.title = title;
  this.body = body;
 }
}

export default Post;
```

App.js

```
import React from "react";
import Posts from "./Posts";

function App() {
 return (
  <div className="App">
   <Posts />
  </div>
 );
}

export default App;
```

OUTPUT:



5. My Academy team at Cognizant want to create a dashboard containing the details of ongoing and completed cohorts.

CohortDetails.js

```
import React from "react";
import styles from "../styles/CohortDetails.module.css";

function CohortDetails({ name, trainer, status }) {
 const statusStyle = {
  color: status.toLowerCase() === "ongoing" ? "green" : "blue",
 };

 return (
  <div className={styles.box}>
   <h3 style={statusStyle}>{name}</h3>
   <dl>
    <dt>Trainer:</dt>
    <dd>{trainer}</dd>
    <dt>Status:</dt>
    <dd>{status}</dd>
   </dl>
  </div>
 );
}

export default CohortDetails;
```

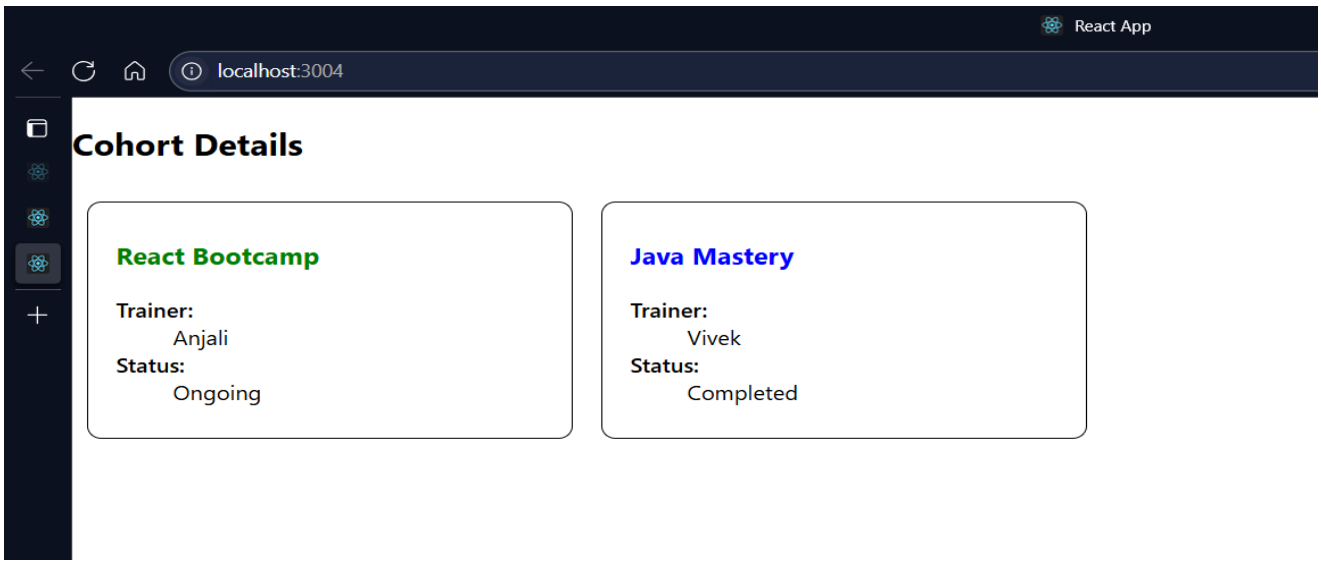
CohortDetails.module.css

```
.box {
 width: 300px;
 display: inline-block;
 margin: 10px;
 padding: 10px 20px;
 border: 1px solid black;
 border-radius: 10px;
}

dt {
 font-weight: 500;
}
```

App.js

```
import React from "react";
import CohortDetails from "./components/CohortDetails";

function App() {
 return (
  <div>
   <CohortDetails name="React Bootcamp" trainer="Anjali" status="Ongoing" />
   <CohortDetails name="Java Mastery" trainer="Vivek" status="Completed" />
  </div>
 );
}

export default App;
```

OUTPUT:



6. Cognizant Academy teams want to maintain a list of trainers along with their expertise in a SPA using React as the technology. You are assigned the task of creating this React app.

Home.js

```
function Home() {
 return (
  <div>
   <h2>Welcome to Trainers Management System</h2>
   <p>Select a page from the navigation menu.</p>
  </div>
 );
}
```

```
export default Home;
```

TrainersList.js

```
import { Link } from "react-router-dom";

function TrainersList({ trainers }) {
  return (
    <div>
      <h2>Trainers List</h2>
      <ul>
        {trainers.map((t) => (
          <li key={t.trainerId}>
            <Link to={`/trainer/${t.trainerId}`}>{t.name}</Link>
          </li>
        ))}
      </ul>
    </div>
  );
}

export default TrainersList;
```

TrainerDetails.js

```
import { useParams } from "react-router-dom";
import trainers from "../data/TrainersMock";

function TrainerDetails() {
  const { id } = useParams();
  const trainer = trainers.find((t) => t.trainerId === parseInt(id));

  if (!trainer) return <p>Trainer not found</p>;

  return (
    <div>
      <h2>{trainer.name}</h2>
      <p>
        <strong>Email:</strong> {trainer.email}
      </p>
      <p>
        <strong>Phone:</strong> {trainer.phone}
      </p>
      <p>
        <strong>Technology:</strong> {trainer.technology}
      </p>
```

```
    <p>
      <strong>Skills:</strong> {trainer.skills.join(", ")}
    </p>
   </div>
  );
}

export default TrainerDetails;
```

App.js

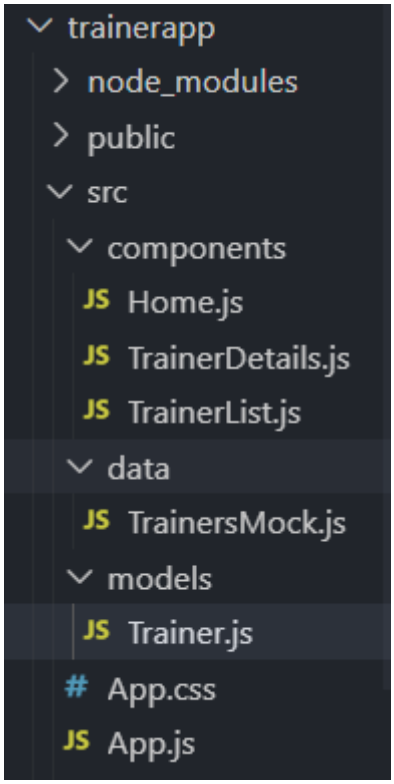
```
import { BrowserRouter, Routes, Route, Link } from "react-router-dom";
import Home from "./components/Home";
import TrainersList from "./components/TrainerList";
import TrainerDetails from "./components/TrainerDetails";
import trainers from "./data/TrainersMock";

function App() {
 return (
  <BrowserRouter>
   <nav>
    <Link to="/">Home</Link> | <Link to="/trainers">Trainers</Link>
   </nav>

   <Routes>
    <Route path="/" element={<Home />} />
    <Route
     path="/trainers"
     element={<TrainersList trainers={trainers} />}
    />
    <Route path="/trainer/:id" element={<TrainerDetails />} />
   </Routes>
  </BrowserRouter>
 );
}

export default App;
```

Trainer.js

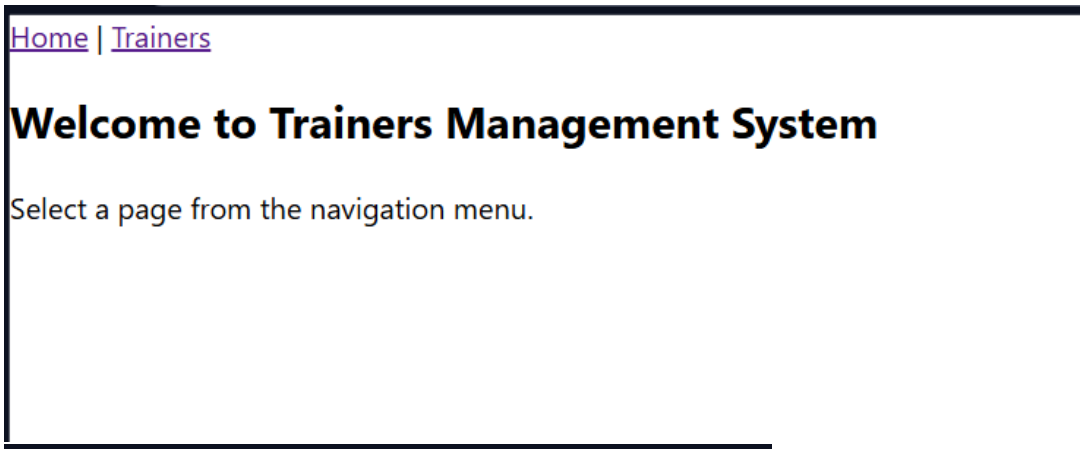
```
import Trainer from "../models/Trainer";

const trainers = [
 new Trainer(1, "Anjali Sharma", "anjali@example.com", "9876543210", "React", [
  "JSX",
  "Hooks",
```

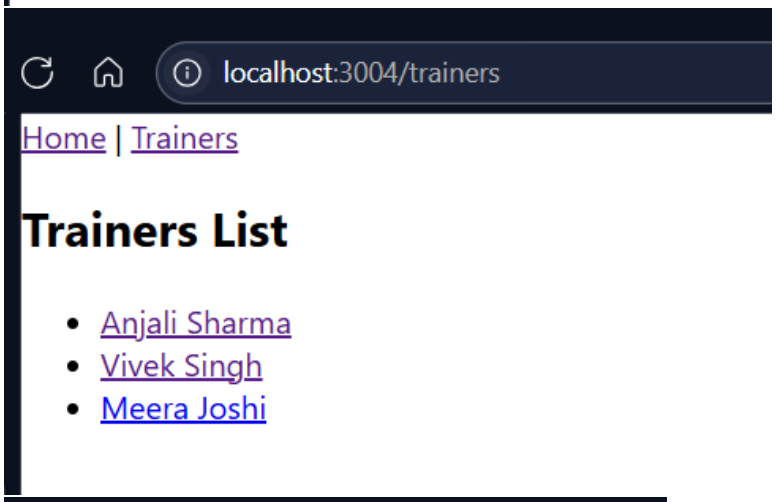
```
  "Redux",
 ]),
 new Trainer(2, "Vivek Singh", "vivek@example.com", "8765432109", "Java", [
  "Spring",
  "JPA",
  "Hibernate",
 ]),
 new Trainer(3, "Meera Joshi", "meera@example.com", "9988776655", "Python", [
  "Django",
  "Flask",
  "Pandas",
 ]),
];

export default trainers;
```

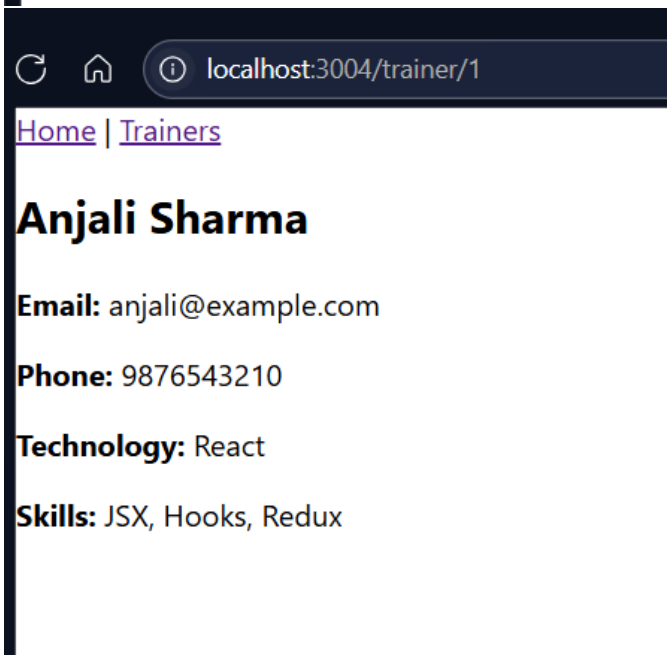
File Structure:

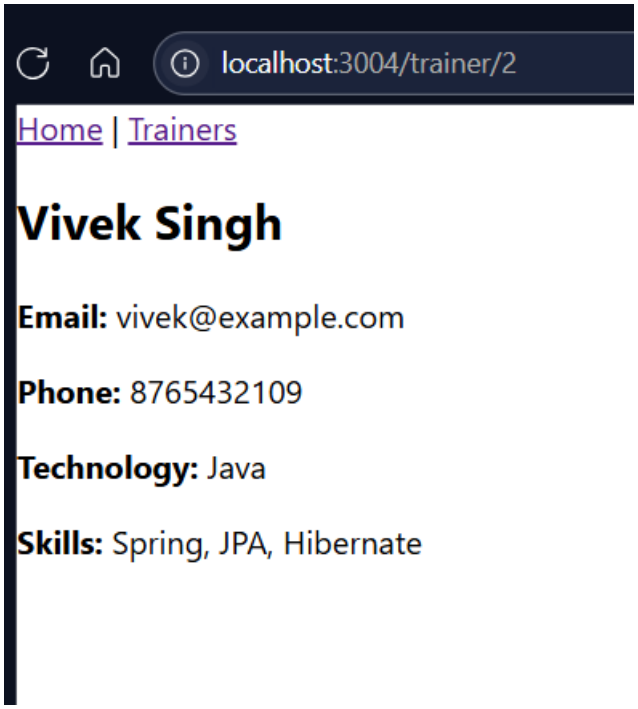


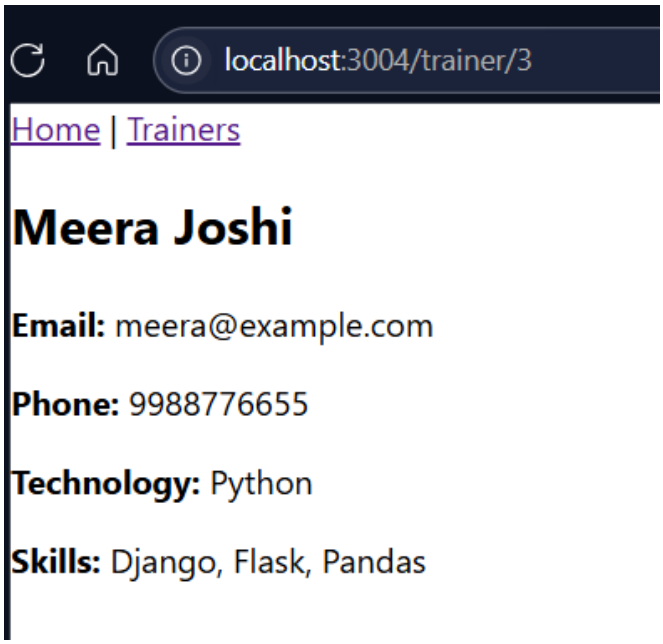
OUTPUT:


Home | Trainers
Welcome to Trainers Management System
Select a page from the navigation menu.


localhost:3004/trainers
Home | Trainers
Trainers List
Anjali Sharma
Vivek Singh
Meera Joshi


localhost:3004/trainer/1
Home | Trainers
Anjali Sharma
Email: anjali@example.com
Phone: 9876543210
Technology: React
Skills: JSX, Hooks, Redux





7. Create a React Application named “shoppingapp” with a class component named “OnlineShopping” and “Cart”.

OnlineShopping.js

```
import React, { Component } from "react";
import Cart from "./Cart"; // Assuming Cart is in the same folder

export class OnlineShopping extends Component {
  render() {
```

```
    const CartInfo = [
     { itemname: "Laptop", price: 80000 },
     { itemname: "TV", price: 120000 },
     { itemname: "Washing Machine", price: 50000 },
     { itemname: "Mobile", price: 30000 },
     { itemname: "Fridge", price: 70000 },
    ];

    return (
     <div className="mydiv">
      <h1>Items Ordered:</h1>
      <Cart item={CartInfo} />
     </div>
    );
  }
}
```

Cart.js

```
import React, { Component } from "react";

class Cart extends Component {
  render() {
    return (
      <table border="1" cellPadding="10" style={{ borderCollapse: "collapse" }}>
        <thead>
          <tr>
            <th>Item Name</th>
            <th>Price (₹)</th>
          </tr>
        </thead>
        <tbody>
          {this.props.item.map((item, index) => {
            return (
              <tr key={index}>
                <td>{item.itemname}</td>
                <td>{item.price}</td>
              </tr>
            );
          })}
        </tbody>
      </table>
    );
  }
}
```

```
export default Cart;
```

App.js

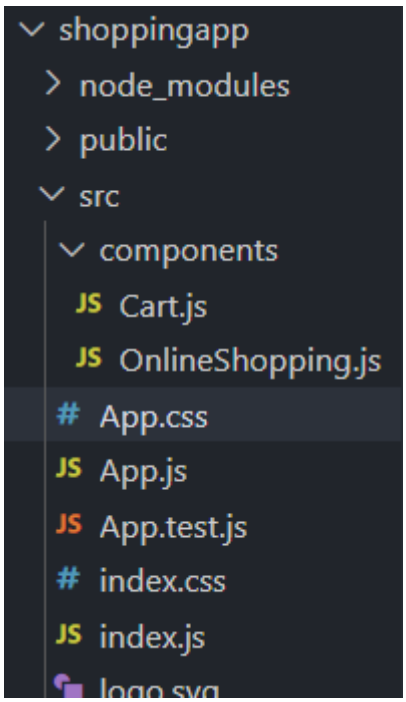
```
import React from "react";
import "./App.css";
import { OnlineShopping } from "./components/OnlineShopping";

function App() {
  return (
    <div>
      <OnlineShopping />
    </div>
  );
}

export default App;
```

App.css

```
.mydiv {
  text-align: center;
  margin-top: 40px;
}

h1 {
  color: green;
}

table {
  margin: 0 auto;
  border-collapse: collapse;
  font-size: 18px;
}

th,
td {
  padding: 10px 20px;
  border: 1px solid #999;
  color: #008000;
}

th {
  background-color: #f0f0f0;
  color: green;
```

}

File Structure:



OUTPUT:

Items Ordered:

Item Name	Price (₹)
Laptop	80000
TV	120000
Washing Machine	50000
Mobile	30000
Fridge	70000

8. Create a React App “counterapp” which will have a component named “CountPeople” which will have 2 methods.

Code:

CountPeople.js

```
import React, { Component } from "react";

class CountPeople extends Component {
 constructor(props) {
  super(props);
  this.state = {
   entryCount: 0,
   exitCount: 0,
  };
 }

 updateEntry = () => {
  this.setState((prevState) => ({
   entryCount: prevState.entryCount + 1,
  }));
 };
 updateExit = () => {
  this.setState((prevState) => ({
   exitCount: prevState.exitCount + 1,
  }));
 };
 render() {
  return (
   <div className="container">
    <h2>Mall Visitor Counter</h2>
    <p>
     <strong>Number of People Entered:</strong> {this.state.entryCount}
    </p>
    <p>
     <strong>Number of People Exited:</strong> {this.state.exitCount}
    </p>
    <button className="entry" onClick={this.updateEntry}>
     Login
    </button>
    <button className="exit" onClick={this.updateExit}>
     Exit
    </button>
   </div>
  );
```

```
 }
}
export default CountPeople;
```

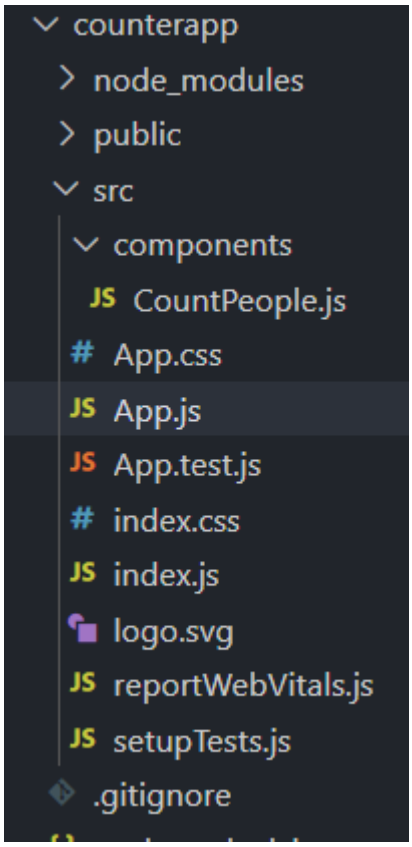
App.js

```
import React from "react";
import "./App.css";
import CountPeople from "./components/CountPeople";
function App() {
 return (
  <div className="App">
   <CountPeople />
  </div>
 );
}
export default App;
```

App.css

```
.container {
 text-align: center;
 margin-top: 80px;
 font-family: sans-serif;
}
h2 {
 color: green;
 margin-bottom: 20px;
}
button {
 padding: 10px 20px;
 margin: 10px;
 font-size: 16px;
 cursor: pointer;
 border-radius: 8px;
 border: none;
}
button.entry {
 background-color: #4caf50;
 color: white;
}

button.exit {
 background-color: #f44336;
 color: white;
}
```

File Structure:



OUTPUT: