Experiment 1

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Subject Name: Full Stack   **Subject Code:** 23CSH-382

1. **Title:**

     Modern React Foundations – EcoTrack

2. **Aim:**

   To design and implement the foundational frontend architecture of the EcoTrack application using modern React practices, Vite tooling, and ES6+ JavaScript features.

3. **Objective:**
   - To set up a React project using Vite with proper project structure
   - To understand component-based architecture in React
   - To apply ES6 array methods (map, filter, reduce) for data-driven UI rendering
   - To separate concerns using components, pages, and data modules

4. **Implementation/Code:**
   - Header.jsx:

```jsx
const Header = ({title}) => {
    return (
        <header style = {{
            padding: '10px',
            backgroundColor: '#5499f8',
            color : 'white',
            textAlign: 'center',
        }}>
        <h1>{title}</h1>
        </header>
    )
}
export default Header;
```

- Dashboard.jsx:

```jsx
import logs from "../data/logs";

const Dashboard = () => {
    const totalcarbon = logs.reduce((acc, curr) => {
        return acc + curr.carbon;
    }, 0);

    return (
        <div>
            <h1>Dashboard</h1>
            <h2>Total Carbon Footprint: {totalcarbon} kg CO2</h2>
            <ol>
                {logs.map((log) => (
                    <li key={log.id}>
                        {log.activity}: {log.carbon} kg CO2
                    </li>
                ))}
            </ol>
        </div>
    )
}

export default Dashboard;
```

- Logs.jsx:

```jsx
import logs from "../data/logs";

const Logs = () => {
    const highCarbon = logs.filter((log) => {
                    return log.carbon > 3;
                })
    return (
        <div>
            <h1>Logs with Carbon geater than 3</h1>
            <ol>
                {highCarbon.map((log) => (
                    <li key = {log.id}>
                        {log.activity} = {log.carbon} kg CO2
                    </li>
                ))}
            </ol>
        </div>
    )
}

export default Logs;
```

- Apps.jsx:

```jsx
import Dashboard from "./pages/dashboard";
import Logs from "./pages/logs";
function App(){
  return (
    <div>
      <Dashboard />
      <Logs/>
    </div>
  )
}
export default App;
```

5. **Output**

Dashboard

Total Carbon Footprint: 10 kg CO2

1. Car Travel: 4 kg CO2
2. Electricity Usage: 6 kg CO2
3. Cycling: 0 kg CO2

Logs with Carbon geater than 3

1. Car Travel = 4 kg CO2
2. Electricity Usage = 6 kg CO2

6. Learning Outcome

- We learnt about React Apps and how to create them.
- We learnt about map function.
- We learnt about filter function.
- We learnt about reduce function and how it replaces map and filter.
- We learnt about the flow of a React project.