CHANDIGARH UNIVERSITY
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Experiment 1

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Branch: BE-AIT-CSE

Semester: 6th

Subject Name: Full Stack II

UID: 23BIA50011

Section/Group: 23AML_KRG-G2

Date of Performance: 14 Jan 2026

Subject Code: 23CSH-382

1. Aim:

To design and develop a web-based Environmental Impact Tracker (EcoTrack) that calculates and categorizes carbon footprint based on different daily activities using ReactJS

2. Objective:

The main objectives of this experiment are:

- **To understand the use of React components for UI development**
- **To calculate total carbon footprint using JavaScript logic**
- **To classify activities into High Carbon and Low Carbon emissions**
- **To design a minimalist and user-friendly dashboard UI**
- **To improve understanding of arrays, filter, reduce, and conditional rendering**

3. Implementation/Code:

logs.js:

```
export const logs = [
  { id: 1, activity: "Car Travel", carbon: 4 },
  { id: 2, activity: "Electricity Usage", carbon: 6 },
  { id: 3, activity: "Cycling", carbon: 0 },
  { id: 4, activity: "Bus Travel", carbon: 3 },
  { id: 5, activity: "Solar Energy Usage", carbon: 1 },
  { id: 6, activity: "Flight Travel", carbon: 8 },
];
```

App.jsx:

```jsx
import Dashboard from "./pages/dashboard";
import Logs from "./pages/logs";
import Header from "./components/Header";


const App = () => {

  return (
    <>
      <Header title="EcoTrack - Environment Impact Trackery" />

      <main style={{ padding: "1rem" }}>
        <Dashboard />
        <Logs />
      </main>
    </>
  );
};

export default App;

```

Dashboard,jsx:

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

const Dashboard = () => {
  const totalCarbon = logs.reduce((sum, log) => sum + log.carbon, 0);

  return (
    <div>
      <h2>Dashboard</h2>
      <p>Total Carbon FootPrint: {totalCarbon} Kgs</p>

      <ul>
        {logs.map((log) => (
          <li key={log.id}>
            {log.activity} : {log.carbon} Kgs
          </li>
        ))}
      </ul>
    </div>
  );
};

export default Dashboard;

```

Logs.jsx:

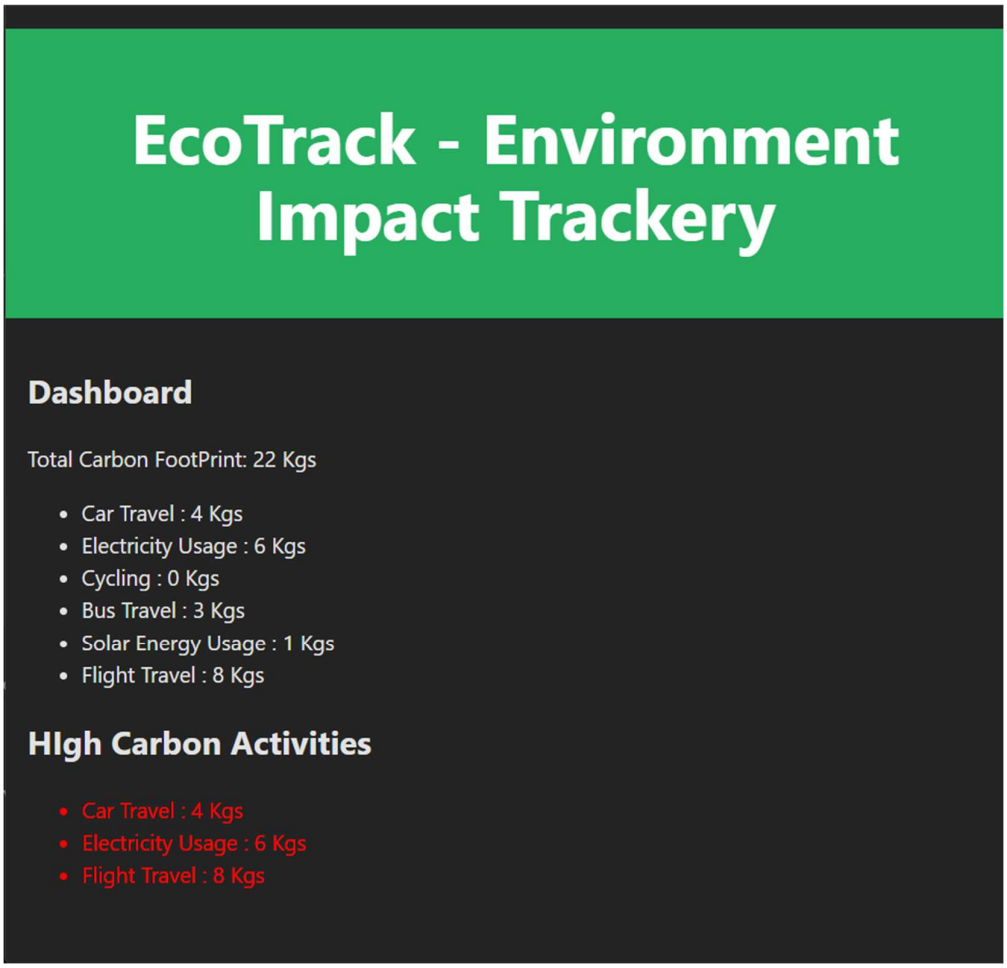
```jsx
import { logs } from "../data/logs";

const Logs = () => {
  const highCarbonLogs = logs.filter(log => log.carbon >= 4);

  return (
    <div>
        <h2>HIgh Carbon Activities</h2>
        <ul>
            {highCarbonLogs.map(log=>(
                <li key={log.id}
                    style={{color: "red"}}>
                    {log.activity} : {log.carbon} Kgs
                </li>
            ))}
        </ul>
    </div>
  );
};

export default Logs;
```

4. Output:



5. Learning Outcome

- **How to build reusable UI using React components**
- **Practical use of map(), filter(), and reduce()**
- **How to manage and display data dynamically in React**
- **Basics of dashboard UI design with CSS**
- **Understanding of environmental impact awareness through technology**