Experiment 1

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Subject Name: Full Stack - II

Subject Code:23CSH-382

1. **AIM:** To design and implement the foundational frontend architecture of the EcoTrack application using modern React practices, Vite tooling, and ES6+ JavaScript features.
2. **Objective:**
   a. To set up a React project using Vite with proper project structure
   b. To understand component-based architecture in React
   c. To apply ES6 array methods (map, filter, reduce) for data-driven UI rendering
   d. To separate concerns using components, pages, and data modules

3. **Code: data:**

```
const logs = [
  { id: 1, activity: "Car Travel", carbon: 4 },
  { id: 2, activity: "Electricity Usage", carbon: 6 },
  { id: 3, activity: "Cycling", carbon: 0 },
];
export default logs;
```

Total Carbon function in calculation.jsx

```
projectu > src > pages > JS calculations.js > ...
1   export const calculateTotalCarbon = (logs) => {
2       return logs.reduce((total, log) => total + log.carbon, 0);
3   };
4
5
```

Importing the files in the app.jsx

```
import './App.css'
import logs from './data/logs.js'
import { calculateTotalCarbon } from './pages/calculations.js'

  function App(){
    const totalCarbon = calculateTotalCarbon(logs);
```

Total Carbon and all activities mapped

```
return(
  <>
   <h1>Total Carbon Footprint: {totalCarbon}</h1>

   <h2>Activity Logs </h2>
   <table style={{flex: 1, border: "2px solid white", margin: "auto", textAlign: "center"}}>
    <thead>
      <tr>
        <th style={{border: "2px solid white"}}>Activity</th>
        <th style={{border: "2px solid white"}}>Carbon Footprints</th>
      </tr>
    </thead>

    <tbody>
      {logs.map((log)=>(
        <tr key = {log.id} style={{color : 'white', backgroundColor: 'blue'}}>
          <td>{log.activity}</td>
          <td>{log.carbon}kg</td>
        </tr>
      ))}
    </tbody>
   </table>
```

mapping all the footprints with carbon less than or equal to 4 with green

```
<h2 style={{marginTop: "100px"}}>Filtered Logs less than equal to  4kg</h2>

<table style = {{flex: 1, border: "2px solid white", margin: "auto"}}>
 <thead>
   <tr>
     <th style={{border: "2px solid white", textAlign: "center"}}>Activity</th>
     <th style={{border: "2px solid white", textAlign: "center"}}>Carbon Footprints</th>
   </tr>
  </thead>
   <tbody>
     {
       logs.filter((log)=> log.carbon <= 4).map((log) =>(
         <tr key = {log.id} style={{color : 'white', backgroundColor: 'green'}}>
           <td>{log.activity}</td>
           <td>{log.carbon}kg</td>
         </tr>
       ))
     }
   </tbody>

</table>
```

mapping all the footprint with carbon greater than 4

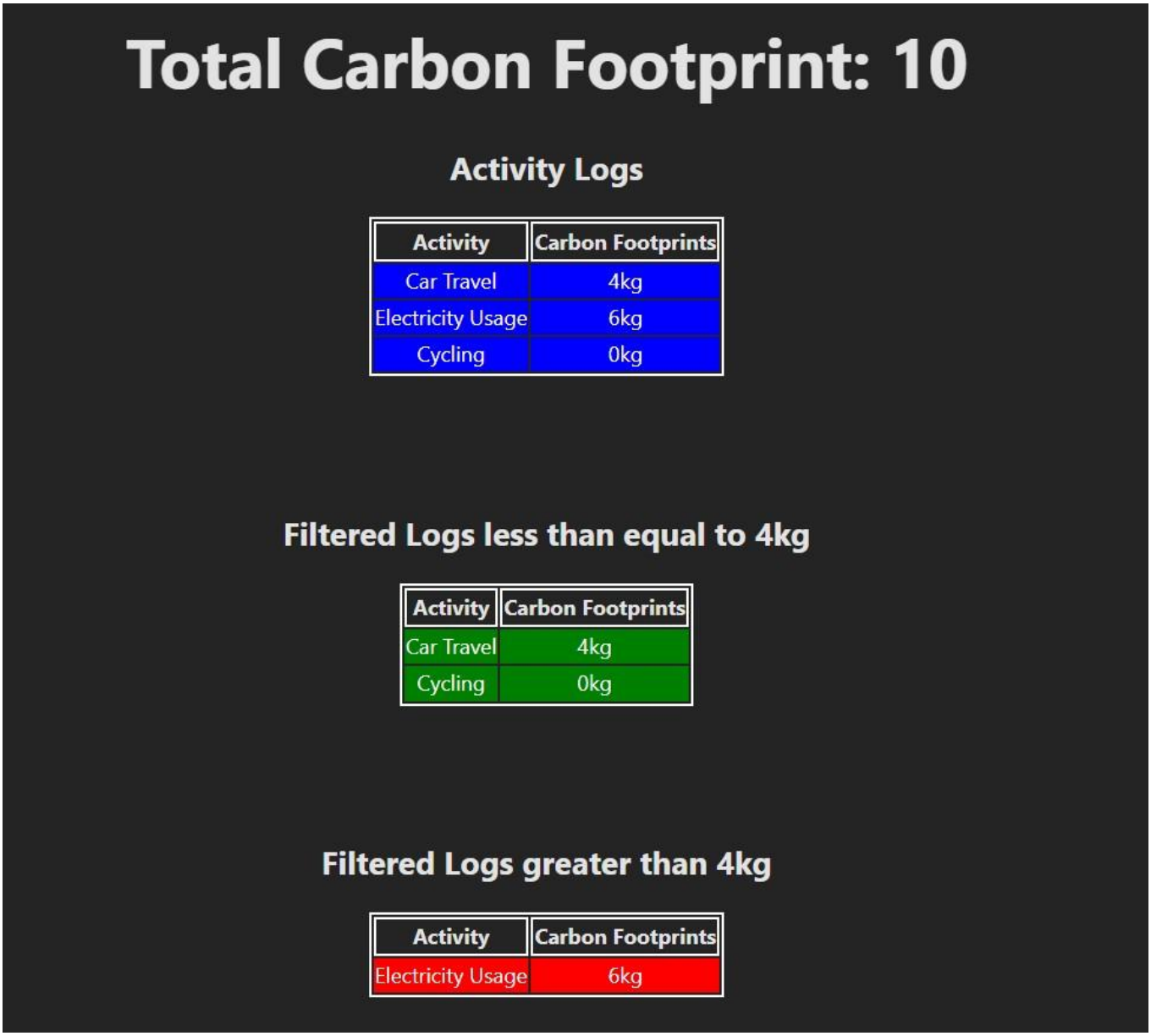
```
<h2 style={{marginTop: "100px"}}>Filtered Logs greater than 4kg</h2>
<table style = {{flex: 1, border: "2px solid white", margin: "auto"}}>
 <thead>
   <tr>
     <th style={{border: "2px solid white", textAlign: "center"}}>Activity</th>
     <th style={{border: "2px solid white", textAlign: "center"}}>Carbon Footprints</th>
   </tr>
 </thead>
   <tbody>
     {
       logs.filter((log)=> log.carbon > 4).map((log) =>(
         <tr key = {log.id} style={{color : 'white', backgroundColor: 'red'}}>
           <td>{log.activity}</td>
           <td>{log.carbon}kg</td>
         </tr>
       ))
     }
   </tbody>

</table>




</>
)
```

Output:



Learning Outcomes:

- Learnt the use of map, filter and reduce • learnt how to use the inline css and html inside the return in app.jsx and use it with
  map and filter
- Learnt the importance of iporting and exporting files and using them inside the app.jsx