



**CHANDIGARH
UNIVERSITY**
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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:

Total Carbon Footprint: 10

Activity Logs

Activity	Carbon Footprints
Car Travel	4kg
Electricity Usage	6kg
Cycling	0kg

Filtered Logs less than equal to 4kg

Activity	Carbon Footprints
Car Travel	4kg
Cycling	0kg

Filtered Logs greater than 4kg

Activity	Carbon Footprints
Electricity Usage	6kg

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 importing and exporting files and using them inside the app.jsx