Assignment

Learner Details

- **Name: Shrayanth S**
- **Enrollment Number: SU625MR011**
- **Batch / Class: June 2025 MERN**
- **Assignment:**
- **Date of Submission: 07/08/2025**

Problem Solving Activity 1.1

1. Program Statement

Build a React component that filters and displays a list of users based on a search input. As the user types, the displayed list updates in real-time, showing only matching results

---

2. Algorithm

- Create a React app with two components: App and Userfilter.
- Define a list of users inside the App component.
- Use the useState hook in App to manage the search input state.
- Pass search, setSearch, and users as props to Userfilter.
- Inside Userfilter, filter the users based on whether their names include the search string (case-insensitive).
- Render an input box and filtered user names in an ordered list.
- Update the state in real-time as the user types in the input box.
- Display only the matching users

Component App:

Initialize search state as empty string

Define array of users with id and name

Render heading

Render Userfilter component and pass search, setSearch, and users as props

Component Userfilter:

Filter users:

Convert user.name and search to lowercase

Check if user.name includes search string

Render:

- Input box for search with value and onChange handler

- Ordered list of filtered user names

---

4. Program Code

UserFilter.jsx | App.css | App.jsx

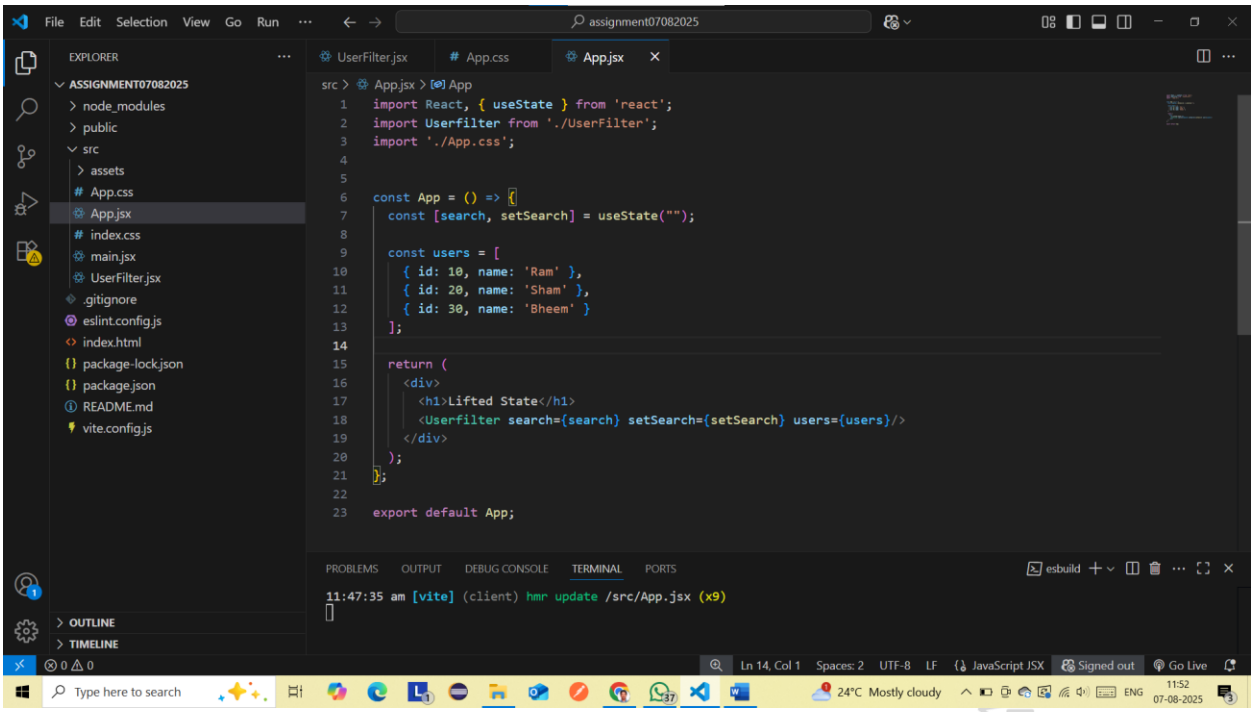
src > UserFilter.jsx > Userfilter > filteredUsers.map() callback

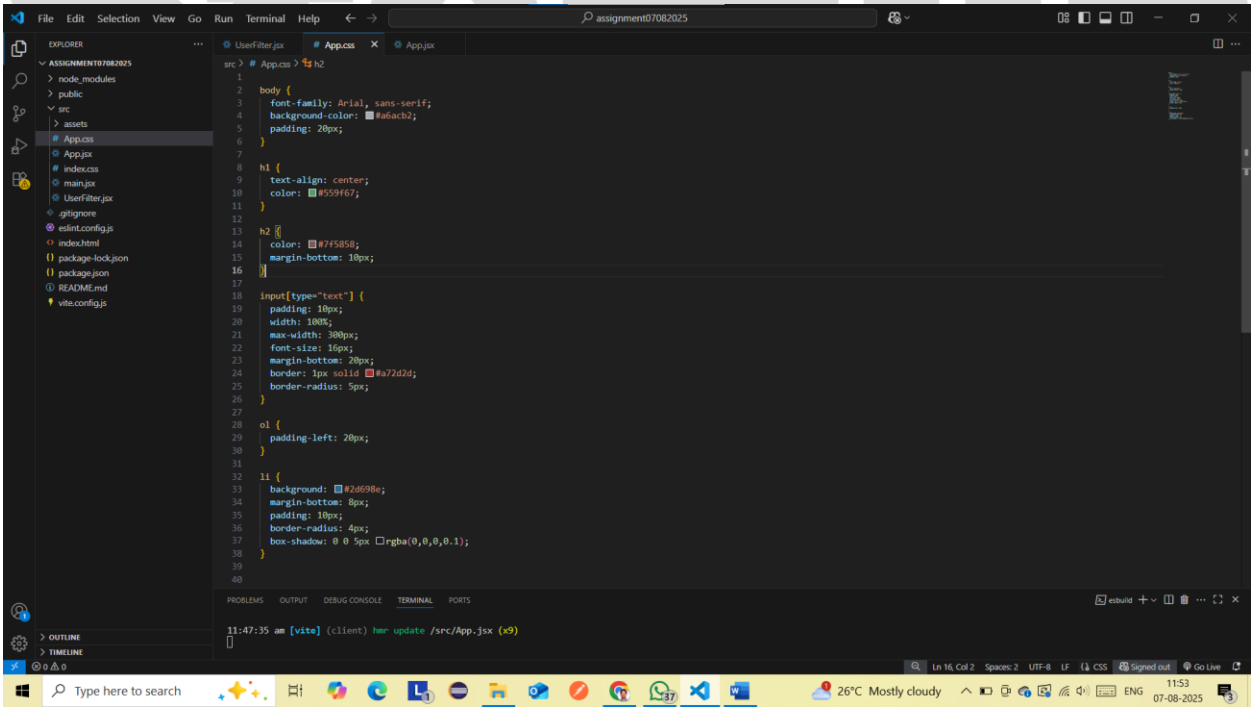
```jsx
import React from 'react';

const Userfilter = ({ search, setSearch, users }) => {
  const filteredUsers = users.filter(user =>
    user.name.toLowerCase().includes(search.toLowerCase())
  );

  return (
    <div>
      <h2>User Lists</h2>
      <input type="text" placeholder="Search users"
        value={search}
        onChange={(e) => setSearch(e.target.value)}
      />
      <ol>
        {filteredUsers.map(user => (
          <li key={user.id}>{user.name}</li>
        ))}
      </ol>
    </div>
  );
};

export default Userfilter;
```

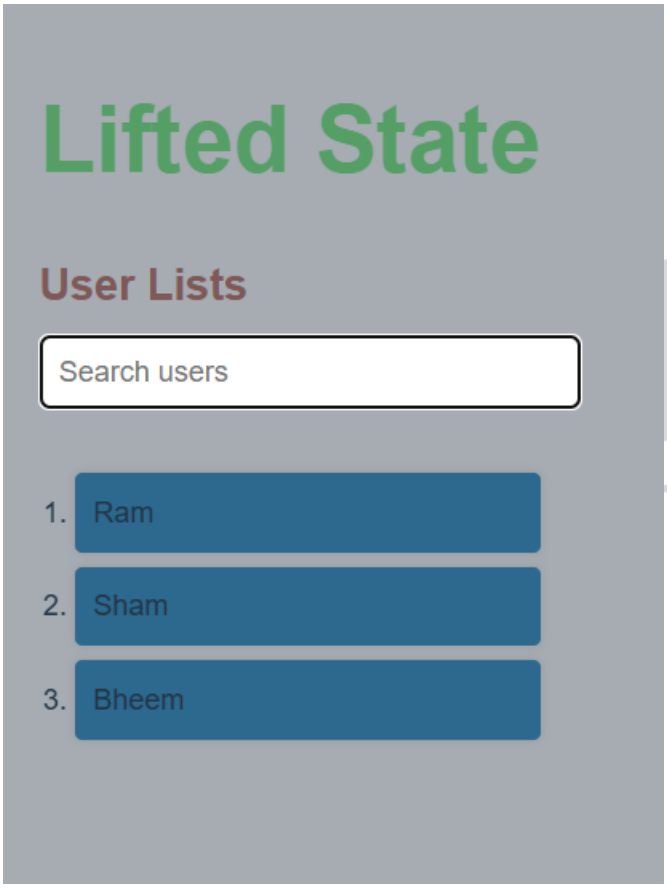

File Edit Selection View Go Run
assignment07082025
EXPLORER
ASSIGNMENT07082025
node_modules
public
src
assets
App.css
App.jsx
index.css
main.jsx
UserFilter.jsx
.gitignore
eslint.config.js
index.html
package-lock.json
package.json
README.md
vite.config.js
UserFilter.jsx
App.css
App.jsx
src > App.jsx > App
1 import React, { useState } from 'react';
2 import Userfilter from './UserFilter';
3 import './App.css';
4
5
6 const App = () => {
7 const [search, setSearch] = useState("");
8
9 const users = [
10 { id: 10, name: 'Ram' },
11 { id: 20, name: 'Sham' },
12 { id: 30, name: 'Bheem' }
13];
14
15 return (
16
17 <h1>Lifted State</h1>
18 <Userfilter search={search} setSearch={setSearch} users={users}/>
19
20);
21 };
22
23 export default App;
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
esbuild
11:47:35 am [vite] (client) hmr update /src/App.jsx (x9)
OUTLINE
TIMELINE
Ln 14, Col 1 Spaces: 2 UTF-8 LF JavaScript JSX Signed out Go Live
Type here to search
24°C Mostly cloudy
ENG
11:52
07-08-2025


File Edit Selection View Go Run Terminal Help
assignment07082025
EXPLORER
ASSIGNMENT07082025
node_modules
public
src
assets
App.css
App.jsx
index.css
main.jsx
UserFilter.jsx
.gitignore
eslint.config.js
index.html
package-lock.json
package.json
README.md
vite.config.js
UserFilter.jsx
App.css
App.jsx
src > App.css > h2
1
2 body {
3 font-family: Arial, sans-serif;
4 background-color: #a6acb2;
5 padding: 20px;
6 }
7
8 h1 {
9 text-align: center;
10 color: #559f67;
11 }
12
13 h2 {
14 color: #7f5858;
15 margin-bottom: 10px;
16 }
17
18 input[type="text"] {
19 padding: 10px;
20 width: 100%;
21 max-width: 300px;
22 font-size: 16px;
23 margin-bottom: 20px;
24 border: 1px solid #a72d2d;
25 border-radius: 5px;
26 }
27
28 ol {
29 padding-left: 20px;
30 }
31
32 li {
33 background: #2d698e;
34 margin-bottom: 8px;
35 padding: 10px;
36 border-radius: 4px;
37 box-shadow: 0 0 5px rgba(0,0,0,0.1);
38 }
39
40
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
esbuild
11:47:35 am [vite] (client) hmr update /src/App.jsx (x9)
OUTLINE
TIMELINE
Ln 16, Col 2 Spaces: 2 UTF-8 LF CSS Signed out Go Live
Type here to search
26°C Mostly cloudy
ENG
11:53
07-08-2025

5. Test Cases

Test Case	Search Input	Expected Output
TC1	(empty)	Ram, Sham, Bheem
TC2	Ram	Ram

6. Screenshots of Output



Lifted State

User Lists

Ram

1. Ram

Lifted State

User Lists

Bheem

1. Bheem

7. Observation / Reflection

While doing this task, I learned how to pass data between components using props and how to use useState to update the search in real-time. At first, I found lifting the state a bit tricky, but I figured it out. I also used filter() and toLowerCase() to match the names correctly. Next time, I would try adding a "No users found" message and maybe use debounce to reduce too many updates while typing.