React Application: Use of Package and Code of Ethics

Q.1) Illustrate the Need for a Package - CO2 (10 Marks)

In React applications, communication with external servers or APIs is crucial. The 'axios' package is a promise-based HTTP client that helps in making asynchronous API requests. While JavaScript provides the built-in 'fetch' API, 'axios' offers a cleaner syntax, supports request/response interceptors, and better error handling. It also automatically transforms JSON data and handles timeouts and headers more easily. Hence, using 'axios' in React simplifies API integration, improves code readability, and enhances development efficiency.

Q.2) Small Application Using axios - CO1, CO2 (10 Marks)

Below is a simple React application using 'axios' to fetch and display user data:

```
import React, { useEffect, useState } from 'react';
import axios from 'axios';

function App() {
  const [users, setUsers] = useState([]);

  useEffect(() => {
    axios.get('https://jsonplaceholder.typicode.com/users')
      .then(res => {
        setUsers(res.data);
      })
      .catch(err => {
        console.error('Error fetching users:', err);
      });
  }, []);

  return (
    <div>
      <h2>User List</h2>
      <ul>
        {users.map(user => (
          <li key={user.id}>{user.name} - {user.email}</li>
        ))}
      </ul>
    </div>
  );
}

export default App;
```

Input: API Request to JSONPlaceholder

Output: Display list of users on the page

Q.3) Code of Ethics with Respect to React

A code of ethics guides developers to write responsible, secure, and fair code. In React, this means:

- Respecting user data: Avoid misusing personal data collected via forms or APIs.

- Open-source respect: Give credit to original creators when using third-party libraries.

- Accessibility: Build interfaces that everyone can use, including people with disabilities.

- Security: Avoid risky code that can lead to attacks like XSS.

- Performance responsibility: Make apps fast and smooth for all users.

Following ethics makes the web a safer and fairer place and helps build user trust.