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Experiment No. 08

Aim: Experiment to study the basics of React.

Theory:

What is React?

React is a free and open-source front-end JavaScript library for building user interfaces based on UI components. It is maintained by Meta and a community of individual developers and companies.

React Feature:

Currently, ReactJS is gaining quick popularity as the best JavaScript framework among web developers. It is playing an essential role in the front-end ecosystem. The important features of ReactJS are as follows.

1. JSX
2. Components
3. One-way Data Binding
4. Virtual DOM
5. Simplicity
6. Performance

What are React components?

Components are independent and reusable bits of code. They serve the same purpose as JavaScript functions, but work in isolation and return HTML.

Components come in two types, Class components, and Function components, in this tutorial we will concentrate on Function components.

Function Component-

Here is the same example as above, but created using a Function component instead.

A Function component also returns HTML and behaves much the same way as a Class component, but Function components can be written using much less code, and are easier to understand.

Class Component-

A class component must include the extended React. Component statement.
This statement creates an inheritance to React. Component, and gives your component access to React.Component's functions.

The component also requires a render() method, this method returns HTML.

Props-

Components can be passed as props, which stands for properties.
Props are like function arguments, and you send them into the component as attributes.

State-

The state is a built-in React object that is used to contain data or information about the component. A component's state can change over time; whenever it changes, the component re-renders. The change in state can happen as a response to user action or system-generated events and these changes determine the behavior of the component and how it will render.

Code-

Navbar.js -

```
import Container from 'react-bootstrap/Container';
import Nav from 'react-bootstrap/Nav';
import Navbar from 'react-bootstrap/Navbar';

function Navigation() {
 return (
  <>

    <Navbar bg="light" variant="light" >
     <Container>
      <Navbar.Brand href="#home">Navbar</Navbar.Brand>
      <Nav className="me-auto">
       <Nav.Link href="#">Home</Nav.Link>
       <Nav.Link href="#">Contact Us</Nav.Link>
       <Nav.Link href="#">Add Entry</Nav.Link>
       <Nav.Link href="#">About Us</Nav.Link>
      </Nav>
     </Container>
    </Navbar>
  </>
 );
}

export {Navigation};
```

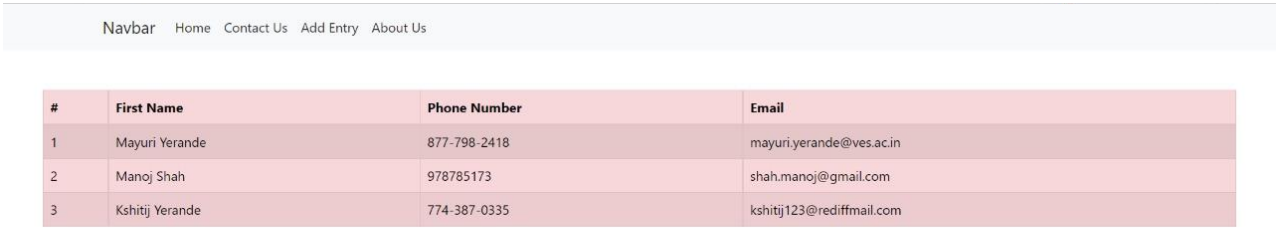
Content.js-

```
import Table from 'react-bootstrap/Table';

function Content() {
  return (
    <div className='m-5'>
    <Table striped bordered hover variant="danger">
      <thead>
        <tr>
          <th>#</th>
          <th>First Name</th>
          <th>Phone Number</th>
          <th>Email</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td>1</td>
          <td>Mayuri Yerande</td>
          <td>877-798-2418</td>
          <td>mayuri.yerande@ves.ac.in</td>
        </tr>
        <tr>
          <td>2</td>
          <td>Manoj Shah</td>
          <td>978785173</td>
          <td>shah.manoj@gmail.com</td>
        </tr>
        <tr>
          <td>3</td>
          <td >Kshitij Yerande</td>
          <td>774-387-0335</td>
          <td>kshitij123@rediffmail.com</td>
        </tr>
      </tbody>
    </Table>
    </div>
  );
}

export {Content};
```

App.js-

```
import logo from './logo.svg';
import './App.css';
import { Navigation } from './Navbar';
import { Content } from './Content';

function App() {
   return (
      <div >
      <Navigation />
      <Content />
      </div>
   );
}
export default App;
```

Output-



Conclusion- We have successfully created a contact management system using react.