**13.React-HOL**

**1. Explain various ways of conditional rendering**

React provides multiple ways to conditionally render elements:

* if / else statements inside a component function
* Ternary operator: condition ? trueComponent : falseComponent
* Logical AND (&&) operator: condition && component
* Element variables: assign different components to a variable and render it

**2. Explain how to render multiple components**

You can render multiple components using:

* Fragment <>...</> or <React.Fragment>
* Array of components
* Parent wrapping components

Example:

return (

<>

<Header />

<Content />

<Footer />

</>

);

**3. Define list component**

A list component in React renders a list of items using .map():

function BookList({ books }) {

return (

<ul>

{books.map(book => <li key={book.id}>{book.title}</li>)}

</ul>

);

}

**4. Explain about keys in React applications**

* Keys help React identify which items changed, added, or removed in a list.
* Keys should be **unique and stable** (e.g., id of an item).
* Helps improve performance and maintain state consistency.

**5. Explain how to extract components with keys**

When rendering lists, extract child components and pass keys to the component itself:

function BookItem({ book }) {

return <li>{book.title}</li>;

}

function BookList({ books }) {

return (

<ul>

{books.map(book => <BookItem key={book.id} book={book} />)}

</ul>

);

}

**6. Explain React Map, map() function**

* map() is used to iterate over arrays and return JSX for each element.
* It's a functional way to dynamically render lists.

Example:

const items = ['React', 'JS', 'HTML'];

const list = items.map((item, index) => <li key={index}>{item}</li>);

**Hands-On**

**Code: App.js**

import React from 'react';

import './App.css';

import CourseDetails from './CourseDetails';

import BookDetails from './BookDetails';

import BlogDetails from './BlogDetails';

function App() {

  return (

    <div className="container">

      <CourseDetails />

      <BookDetails />

      <BlogDetails />

    </div>

  );

}

export default App;

**BlogDetails.js**

import React from 'react';

function BlogDetails() {

  const blogs = [

    {

      title: 'React Learning',

      author: 'Stephen Biz',

      content: 'Welcome to learning React!',

    },

    {

      title: 'Installation',

      author: 'Schewzdenier',

      content: 'You can install React from npm.',

    },

  ];

  return (

    <div className="card blog-card">

      <h2>Blog Details</h2>

      {blogs.map((blog, index) => (

        <div key={index}>

          <h3>{blog.title}</h3>

          <p><strong>{blog.author}</strong></p>

          <p>{blog.content}</p>

        </div>

      ))}

    </div>

  );

}

export default BlogDetails;

**BookDetails.js**

import React from 'react';

function BookDetails() {

  const books = [

    { title: 'Master React', price: 670 },

    { title: 'Deep Dive into Angular 11', price: 800 },

    { title: 'Mongo Essentials', price: 450 },

  ];

  return (

    <div className="card book-card">

      <h2>Book Details</h2>

      {books.map((book, index) => (

        <div key={index}>

          <h3>{book.title}</h3>

          <p>{book.price}</p>

        </div>

      ))}

    </div>

  );

}

export default BookDetails;

**CourseDetails.js**

import React from 'react';

function CourseDetails() {

  const courses = [

    { name: 'Angular', date: '4/5/2021' },

    { name: 'React', date: '6/3/20201' },

  ];

  return (

    <div className="card course-card">

      <h2>Course Details</h2>

      {courses.map((course, index) => (

        <div key={index}>

          <h3>{course.name}</h3>

          <p>{course.date}</p>

        </div>

      ))}

    </div>

  );

}

export default CourseDetails;

**OUTPUT**



