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**Laiba binta tahir**

**Fa21-bse-019-4A**

**Web Theory Assignment # 02**

**29 May-2023**

**React Hooks**

Hooks are the features in React to use other available react features without using a class. Some hooks in react are :

* UseState
* Useeffect
* Useref
* useNavigation
* useContext
* usememo
* useReducer

we will be discussing some of them in detail in upcoming pages;

**useReducer**

useReducer hook in react help us to manage the state. Simply used for state management (when a lot of states and handlers are there). One of the simplest examples is given below:

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| --- |
| import React, { useReducer } from 'react';  const intialvalue = { Count: 0 };  const reducer = (state, action) => {    console.log(action);    return { Count: state.Count + 1 }  }  const App = () => {    const [state, dispachState] = useReducer(reducer, intialvalue);    const Increment = () => {      dispachState()    };    return (      <div>        <h1> Count = {state.Count} </h1>        <button onClick={Increment}> Increase Value </button>      </div>    );  }  export default App; |

**useRef**

useRef hook in react allows us to access DOM elements.

For creating mutable variables not to re-render the component.

|  |
| --- |
| import React, { useState , useEffect, useRef } from 'react';  function App () {    const [id, setid] = useState("");    const CountVal = useRef(0);    useEffect(() => {      CountVal.current = CountVal.current + 1;    });    return (      <div>        <input type='text' value={id}          onChange={(e) => setid(e.target.value)}        />        <h1> ID = {id} </h1>        <h1> Count value = {CountVal.current }</h1>      </div>    );  }  export default App;  **Output:** |

**useContext**

Usecontext hook in react provides a systematic way to pass data through the tree (refers to tree of components) without using props manually.

|  |  |
| --- | --- |
| import React from 'react';  import ComponentB from './componentB';  function **ComponentA**() {    return (      <div>          <ComponentB/>      </div>    );  }  export default ComponentA; | import React from 'react';  import ComponentC from './componentC';  function **ComponentB**() {    return (      <div>          <ComponentC/>      </div>    );  }  export default ComponentB; |

|  |
| --- |
| import React from 'react';  import { UserContext,CourseContext } from './App';  function **ComponentC**() {  return (  <div>  <UserContext.Consumer>  {id =>  {  return (  <CourseContext.Consumer>  {  Course =>  {  return(<div>  Course Context : {Course} <br/>  User context id : {id}  </div>)  }  }  </CourseContext.Consumer>  )  }  }  </UserContext.Consumer>  <p>I'm C Component </p>  </div>  );  }  export default ComponentC; |

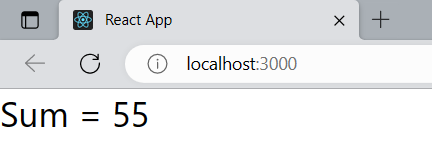
**Appjs**

|  |
| --- |
| import React from 'react';  import ComponentA from './componentA';  export const UserContext = React.createContext()  export const CourseContext = React.createContext()  function **App**() {    return (      <div>        <UserContext.Provider value={'FA21-BSE-019'}>          <CourseContext.Provider value={'Web tecjnologies'}>            <ComponentA />            </CourseContext.Provider>        </UserContext.Provider>      </div>    );  }  export default App; |
|  |

**Usememo**

Usememo hook in react helps us to apply memoization i-e improve the performance of code or simply to avoid expensive calculations on every render.

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| --- |
| import React,{useMemo} from 'react';  function App ()  {    const CalculateResult = () =>    {      let sum = 0;      let j = 0;      while(j<=10)      {        sum = sum + j;        j++;      }      return sum;    };      const memorixedvalue = useMemo (      () => CalculateResult(),[]    );    return <div>      Sum = {memorixedvalue}    </div>  }  export default App; |



**Usenavigation**

UseNavigate hook in react helps us to navigate between pages or to redireact one page to other.

|  |
| --- |
| import React from "react";  import BlogHeader from "../components/BlogHeader";  import FooterHome from "../components/Hfooter";  import { useNavigate } from "react-router";  const Blog = () => {      const navigate = useNavigate()      const gotoCourses = () => {          navigate("/courses");      }      return (          <div>              <BlogHeader />              <button onClick={() => gotoCourses()}>go -- courses </button>              <FooterHome />          </div>      );  }  export default Blog; |
| import React, { Component } from "react";  import CourseHeader from "../components/CourseHeader";  import FooterHome from "../components/Hfooter";  class Courses extends Component{      render()      {          return(              <div>                  <CourseHeader/>                <section className="course">      <h1>Course We Offer</h1>      <p>Campus Chronicles Course Catalog Portal is an information and assistance resource designed for the CC Faculty and Staff.</p>  </section>           <FooterHome/>  </div>          );      }  }  export default Courses; |
| import React from 'react';  import './App.css';  import { Route,Routes } from 'react-router';  import Home from './pages/Home';  import Blog from './pages/Blog';  import Courses from './pages/Courses';  // import Applicants from './MidtermC';  function App() {    return (      <Routes>        <Route path='/' element={<Home />} />        <Route path='blog' element={<Blog />} />        <Route path='courses' element={<Courses />} />        </Routes>      // <Applicants />    );  }  export default App; |