React JS-2

Miscellaneous Tasks

(For logical Reference)

Task1 : Write a React code to pass message "My {brand}. It is a {color} {model} from {year}." And message will convert details of car by clicking button.

```
import { useState } from "react";

function US6() {
  const [data, setdata] = useState({brand:"Ford",model:"Mustang",year:1964,color:"red"});


  function carChange()
  {
     setdata({brand:"Hyundai",model:"Creta",year:2024,color:"TitanGray"})

   }
  return (
    <>
      <h1>My {data.brand}.</h1>
      <p>
        It is a {data.color} {data.model} from {data.year}.
      </p>
      <button onClick={carChange}>
        Click me
      </button>
    </>
  )
}
export default US6
```

Task2: Create React app to pass color(red), background color(yellow), font size(25px) and font style(italic) as properties to component and apply css to "Lj Students" text written in p tag. (Props)

Example.js

```
import PEx1 from "./Example1";
function Example() {
const cssdata = { color: "red", backgroundColor: "yellow", fontSize:"25px" };
return (
<div>
<PEx1 css={ cssdata }/>
</div>
)  }
export default Example
```

ex1.js

```
const ex1 = (props)=>{
var cl = { color:props.css.color, backgroundColor:props.css.backgroundColor,
fontSize:props.css.fontSize
}

return(
<p style={cl}>LJ students</p>
);}
export default ex1;
```

call Example file in App.js

Task 3:

Write a program to build React app to perform the tasks as asked below.

- Add three buttons “Change Text”, “Change Color”, “Hide/Show”.
- Add heading “LJ University” in red color(initial) and also add “React Js Hooks” text in h2 tag.
- By clicking on “Change text” button text should be changed to “Welcome students” and vice versa.
- By clicking on “Change Color” button change color of text to “blue” and vice versa. This color change should be performed while double clicking on the button.
- Initially button text should be “Hide”. While clicking on it the button text should be changed to “Show” and text “React Js Hooks” will not be shown.

US8.js

```
import React,{useState} from "react";

function US8(){
```

```
    //useState to Change text
    const [name,setName] = useState("LJ University");
    //useState to Change Color
    const [textColor,setcolor] = useState("Red");
    //useState to Show Hide text
    const [hideText,setHide]=useState("React Js Hooks");
    const[buttontext,setButtontext]= useState("Hide")

    // Function to show and hide text and also button text
    function showhide() {
        if(buttontext==="Hide")
        {
            setButtontext("Show");
            setHide("")
        }
        else{
            setButtontext("Hide");
            setHide("React Js Hooks")
        }
    };
    // function to change text value
    const changeName=()=>{
        let val = name;
        if(val === "LJ University"){
        setName("Welcome Students")
        }else{
            setName("LJ University")
        }
    }
    // Function to change color of the text
    const changeColor=()=>{
        if(textColor === 'red'){
        setcolor("blue")
        }else{
            setcolor("red")
        }
    }
return(
    <div>
        <button onClick={changeName}>Change Text</button>
        <button onDoubleClick={changeColor}>Change Color on Double click</button>
        <button onClick = {showhide}> {buttontext}</button>
         <h1 style={{color:textColor}}>{name}</h1>
        <h2>{hideText}</h2>
```

```
   </div>
)}
export default US8
```

Task4: Create ReactJS app to pass student name, roll number, t1marks and t2marks of 2 students to component and read the information and display in table format using Props.

In App.js

```
import React from 'react';

import StudentTable from './B229';

function App() {
const students = [{name: 'Student 1', rollNumber: '001', t1marks: 19, t2marks: 25},
{name: 'Student 2', rollNumber: '002', t1marks: 20, t2marks: 24,},];

return (
<div className="App">
<h1>Student Information</h1>
<StudentTable students={students} />
</div>

) }
export default App;
```

In B229.js

```
import React from 'react';

const Data = ({ students }) => {

return (
<table border="1">
<thead>
<tr>
<th>Name</th>
<th>Roll Number</th>
<th>Test 1 Marks</th>
<th>Test 2 Marks</th>
</tr>
</thead>
<tbody>
```

```
{students.map((student) => (

<tr>
<td>{student.name}</td>
<td>{student.rollNumber}</td>
<td>{student.t1marks}</td>
<td>{student.t2marks}</td>
</tr>
))}

</tbody>
</table>
)};

export default Data;
```

Task5 : Change message according to checkbox selection

```
import { useState } from 'react';

export default function MyCheckbox() {
  const [liked, setLiked] = useState(true);
  function handleChange(e) {
    setLiked(e.target.checked);
  }
  return (
    <>
      <label>
        <input
          type="checkbox"
          checked={liked}
          onChange={handleChange}
        />
        I liked this
      </label>
      <p>You {liked ? 'liked' : 'did not like'} this.</p>
    </>
  );}
```

Task6 : Declare more than one state variable in the same component. Each state variable is completely independent.

```
import { useState } from 'react';

export default function Form() {
  const [name, setName] = useState('Taylor');
  const [age, setAge] = useState(42);

  return (
    <>
      <input   value={name}  onChange={e => setName(e.target.value)}  />
      <button onClick={() => setAge(age + 1)}>
        Increment age
      </button>
      <p>Hello, {name}. You are {age}.</p>
    </>
  );
}
```

Task 7: This example passes the updater function, so the “+3” button works.

```
import { useState } from 'react';

export default function Counter() {
  const [age, setAge] = useState(42);

  function increment() {
    setAge(a => a + 1);
  }

  return (
    <>
      <h1>Your age: {age}</h1>
      <button onClick={() => {
        increment();
        increment();
        increment();
      }}>+3</button>
```

```
      <button onClick={() => {
        increment();
      }}>+1</button>
    </>
  );
}
```

Task 8 : Create react app to filter images based on category while clicking on respective buttons.
In example,
Categories – All, Samsung, Vivo and Oneplus.
By clicking on "All" it will display mobiles of all brands. By clicking on specific brand it will display mobiles of respective brand.

```
import React, { useState } from 'react';
import img1 from "./img1.jpg"
import img2 from "./img2.jpg"
import img3 from "./img3.png"
import img4 from "./img4.jpg"
import img5 from "./img5.jpg"
const Gallery = [
   { id:1,pic:img1,category:"Samsung"},
   { id:2,pic:img2,category:"Mi"},
   { id:3,pic:img3,category:"Oneplus"},
   { id:4,pic:img4,category:"Mi"},
   { id:5,pic:img5,category:"Oneplus"},
];
function Product () {
   const[images,setImage]=useState(Gallery);
   function handleproduct(Item){
      const finaldata=Gallery.filter((value)=>value.category===Item)

      if(Item !== "All"){ setImage(finaldata); }
      else{ setImage(Gallery) }
   }
  return (
   <div>
      <button onClick={() =>handleproduct('All')}>All</button>
      <button onClick={() =>handleproduct('Samsung')}>Samsung</button>
      <button onClick={() =>handleproduct('Mi')}>Mi</button>
```

```
      <button onClick={() =>handleproduct('Oneplus')}>Oneplus</button>
      <div>
         {
            images.map((val)=>
            {
               return(
               <>
                  <img src={val.pic} height="300" width="300"/>
               </>
               )
            })
         }
         </div>
   </div>
  )
}
export default Product
```

Task 9: Create react app which takes user defined inputs number 1 and number 2 and perform addition, subtraction, multiplication, division of the numbers. (Use useState hook)

US3.js

```
         import React, { useState } from 'react'
         function US3() {
            const[data,setdata]=useState({});
            const[result,setresult]=useState();

            const handleChange = (e) => {
               const { name, value } = e.target;
               setdata({...data,[name]: value});
             };

             function addition(){
              setresult(parseInt(data.num1) + parseInt(data.num2))
             }
             function sub(){
              setresult(parseInt(data.num1) - parseInt(data.num2))
             }
             function mult(){
              setresult(parseInt(data.num1) * parseInt(data.num2))
             }
             function division(){
```

```
            setresult(parseInt(data.num1) / parseInt(data.num2))
          }

        return (
          <div>
            <div><input type="number" name="num1" onChange={handleChange}
placeholder='First Name'/></div>
            <div><input type="number" name="num2" onChange={handleChange}
placeholder='Last Name'/></div>
            <button onClick={addition}>addition</button>
            <button onClick={sub}>Subtraction</button>
            <button onClick={mult}>Multiplication</button>
            <button onClick={division}>Division</button>
            <h1> {result}</h1>
          </div>
        ) }
        export default US3
```

Task 10: Create a React component that randomly displays one image from a set of predefined images and changes the image when a button is clicked

Example2.js

```
import {useState} from "react";
import img1 from "./img1.jpg"
import img2 from "./img2.jpg"
import img3 from "./img3.png"
import img4 from "./img4.jpg"
import img5 from "./img5.jpg"

function US7()
{
   const arr = [img1,img2,img3,img4,img5]
   const [myimage,setimage] = useState(arr[0]);
   const changeImage = () => {
      const randomIndex = Math.floor(Math.random() * arr.length);
      setimage(arr[randomIndex]);
    };

    return (
      <div className="App">
        <header className="App-header">
          <h1>Random Image Generator</h1>
```

```
        <img src={myimage} alt="Random" width="500" height="500"/>
        <button onClick={changeImage}>Change Image</button>
      </header>
    </div>
  );

}
export default US7
```

Task 11

Use multiple contexts in a React application by creating and consuming them across different components.
uc1.js: Creates a context for CSS styling and provides it to Comp1.
uc2.js: Creates a context for a string value ("Students") and provides it to Comp2.
uc3.js: Consumes both contexts and displays a message with the provided styles and string.

uc1.js

```
import React, { createContext } from "react"
import Comp1 from "./uc2"
const CC = createContext();
const mycss={backgroundColor:'yellow',color:'red',fontSize:"45px"}
function Comp(){
  return (
  <>
    <CC.Provider value={mycss}>
        <Comp1/>
    </CC.Provider>
  </>
  )
}
export default Comp
export {CC}
```

uc2.js

```
import { createContext } from "react"
import Comp2 from "./uc3"
const CC1 = createContext();


function Comp(){
  return (
```

```
      <CC1.Provider value="Students">
      <Comp2/>
     </CC1.Provider>
   )
}
export default Comp
export {CC1}
```

uc3.js

```
import React, { useContext } from "react"
import { CC } from "./uc1"
import { CC1 } from "./uc2"
function Comp3(){
   const mycss = useContext(CC)
   const data = useContext(CC1)
   return (
   <h1 style={mycss}>Welcome to useContext tutorial {data}</h1>
   )
}
export default Comp3
```

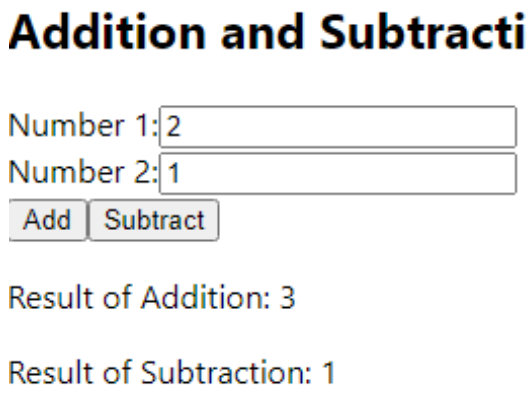
Task: 12 (Both result has to display)**
Create react app which takes user defined inputs number 1 and number 2 and perform addition and subtraction of the numbers. (Use useState hook)

Calc.js

```
import React, { useState } from 'react';
function Calc() {
  const [num1, setNum1] = useState(0);
  const [num2, setNum2] = useState(0);
  const [addResult, setAddResult] = useState(0);
  const [subResult, setSubResult] = useState(0);

  const handleAddition = () => {
    const sum = num1 + num2;
    setAddResult(sum);
  };
  const handleSubtraction = () => {
    const difference = num1 - num2;
    setSubResult(difference);
  };
  return (
    <div>
      <h2>Addition and Subtraction</h2>
      <div>
        <label>
          Number 1:
          <input type="number" value={num1} onChange={(e) =>
setNum1(parseInt(e.target.value))} />
        </label>
      </div>
      <div>
        <label>
          Number 2:
          <input type="number" value={num2} onChange={(e) =>
setNum2(parseInt(e.target.value))} />
        </label>
      </div>
      <div>
        <button onClick={handleAddition}>Add</button>
        <button onClick={handleSubtraction}>Subtract</button>

      </div>
      <div>
        <p>Result of Addition: {addResult}</p>
        <p>Result of Subtraction: {subResult}</p>
      </div>
    </div>
  );
};
export default Calc;
```



Task 13 : Create react app which contains form with fields Name, Email Id, Password and Confirm Password. When the form submitted the values of password and confirm password fields must be same else it will give an error message in alert box. If form submitted successfully then display entered name and email id in alert box.

Form2.js

```
import React, { useState } from 'react'
function Form2(){
   const[formdata,setformdata]=useState({});
   const handlechange = (event) => {
      const name = event.target.name;
      const value = event.target.value;
      setformdata({...formdata, [name]: value})
   }
            const handlesubmit=(e)=>

   {
      e.preventDefault();
      if(formdata.pass !== formdata.cpass){
         alert("Values of Password and Confirm password must be same")
      }else{
         alert("Welcome "+formdata.fname+"\n Your Email id is: "+ formdata.eid)
      }
   }
   return (
   <div>
      <form className="form-data" onSubmit={handlesubmit}>

         <label>Name:</label>
         <input type="text" name="fname" onChange={handlechange} /><br/>

         <label>Email Id:</label>
         <input type="email" name="eid" onChange={handlechange}
required/><br/>
```

```
        <label>Password :</label>
        <input type="password"  name="pass" onChange={handlechange}
required/><br/>

        <label>Confirm Password :</label>
        <input type="password"  name="cpass" onChange={handlechange} /><br/>

      <button type="submit">Submit</button> <br/>
      </form>

   </div>
  )
}
export default Form2
```

Form Just for the reference without using useState

```
import React from 'react'
const Form2 = () => {
   const handlesubmit=(e)=>
   {
      e.preventDefault();
      if(e.target.pass.value !== e.target.cpass.value){
         alert("password and confirm password must be same");
      }
      else{
         alert("form Submitted with below data.\n First name: "+ e.target.fname.value +" Last
Name : "+ e.target.lname.value +" Email: "+ e.target.email.value);
      }
   }
  return (
   <div>
      <form className="form-data" onSubmit={handlesubmit}>
         <label>First Name:</label>
         <input type="text" name="fname" />

         <label>Last Name:</label>
         <input type="text" name="lname" />

         <label>Email ID:</label>
         <input type="email" name="email" /><br/>

         <label>Password :</label>
         <input type="password"  name="pass" /><br/>
```

```
        <label>Confirm Password :</label>
        <input type="password"  name="cpass" /><br/>

      <button type="submit">Submit</button> <br/>
      </form>
   </div>
  )
}
export default Form2
```

Task: 14 Create a React component that manages multiple form input fields using a single state object and displays the values in real-time

Example1.js

```
import React, { useState } from 'react'
function US3() {
   const[data,setdata]=useState({});

   const handleChange = (e) => {
      const { name, value } = e.target;
      setdata({...data,[name]: value});
     };

  return (
   <div>
     <div><input type="text" name="firstName" onChange={handleChange}
placeholder='First Name'/></div>
      <div><input type="text" name="lastName" onChange={handleChange}
placeholder='Last Name'/></div>
      <h1>First Name: {data.firstName} Lastname: {data.lastName}</h1>
   </div>
  ) }
export default US3
```

Task 15:

Create react app which to perform following task using function component:

• Create one main file name F1.js & other 2 component files F2.js & F3.js.

• Main file contains form with following fields:

o First Name (Input type text)
o Last Name (Input type text)
o Message (Textarea)
o City (Dropdown)
o Gender (Radio Button)
• Pass values of all fields from F1.js file to F3.js file. And display all submitted values in alert box using useContext & useState hook. No need to write App.js file.

```
import { createContext, useState } from 'react';
import F2 from './F2';
const AppContext = createContext();

const AppProvider = () => {
  const [user, setUser] = useState({});
  const [formData, setFormData] = useState({});

  const handleChange = (e) => {
    const { name, value } = e.target;
    setFormData({ ...formData, [name]: value });
  };

  const handleSubmit = (e) => {
    e.preventDefault();
    setUser(formData);
  };
  return (
    <AppContext.Provider value={user}>
      <div>
        <h1>React useState and useContext Example</h1>
        <form onSubmit={handleSubmit}>
          <label>
            First Name:
          <input type="text" name="firstname" onChange={handleChange} />
          </label>
          <br />
          <label>
            Last Name:
```

```
                <input type="text" name="lastname" onChange={handleChange} />
                </label>
                <br />
                <label>
                   Message:
                   <textarea name="message" onChange={handleChange} />
                </label>
                <br />
                <label>
                   City:
                   <select name="city" onChange={handleChange}>
                      <option value="Ahmedabad">Ahmedabad</option>
                      <option value="Rajkot">Rajkot</option>
                      <option value="Gandhinagar">Gandhinagar</option>
                   </select>
                </label>
                <br />
                <label>
                   Gender:
                   <input type="radio" name="gender" value="Male" onChange={handleChange}
/> Male
                   <input type="radio" name="gender" value="Female"
onChange={handleChange} /> Female
                </label>
                <input type='submit'></input>
             </form>
             <F2 />
          </div>
       </AppContext.Provider>
   );};
export default AppProvider
export { AppContext }
```

F2.js

```
import F3 from './F3';
const F2 = () => {
   return (<F3 />)
};
export default F2;
```

F3.js

```
import React, { useEffect, useContext } from 'react';
import { AppContext } from './F1';
```

```
const UserProfile = () => {
   const user = useContext(AppContext);
   useEffect(() => {
      const isEmpty = (obj) => Object.keys(obj).length === 0;
      if (!isEmpty(user)) {
         alert(JSON.stringify(user));
      }
   }, [user]);
   return (
      <div>
         <h2>User Profile</h2>
         <p>Name: {user.firstname} {user.lastname}</p>
         <p>Message: {user.message}</p>
      </div>
   );
};
export default UserProfile;
```

Task16: Write a function based React code for Comparing Numbers using useContext.

In this code, you need to create a React application to compare two user define numbers. Set t hem with help of useStstae hook and display messages based on the comparison.
The application will consist of four components: Main → Comp → Comp1→Comp2.

Main: This is the main component and used to pass two numbers that render Comp.
Comp: Display only Text in h1 tag: "Comparison of numbers" in center.
Comp1: This component compares the two numbers for inequality.
One of the below statements has to print after comparing, in h1 tag with only higher provided number will display in green color and lower provided number in red color.

"Number 1 (Provided number) is higher than Number 2 (Provided number)."

Or

"Number 1 (Provided number) is lower than Number 2 (Provided number)."

Comp2: This component compares the two numbers and displays a message if both numbers ar e equal. "Number 1 (Provided number) and Number 2 (Provided number) are same" in h2 tag a nd in orange color.

Main: This is the main component and used to pass two numbers that render Comp.

```
import React,{createContext,useState} from 'react';
import Comp from './Comp';

const Num1 = createContext();
const Num2 = createContext();

const Main = () => {
  const [number1, setNumber1] = useState("");
  const [number2, setNumber2] = useState("");
  return (
    <div>
      <Num1.Provider value={number1}>
      <Num2.Provider value={number2}>
        <Comp />
        </Num2.Provider>
        </Num1.Provider>
         Number1:<input type="number" value={number1} onChange={(e) => setNumber1
(e.target.value)}
        placeholder="Enter number 1"
      /> <br/>

      Number2:<input
        type="number"
        value={number2}
        onChange={(e) => setNumber2(e.target.value)}
        placeholder="Enter number 2"
      />
    </div>
  );};
export default Main;
export {Num1,Num2}
```

Comp: Display only Text in h1 tag: “Comparison of numbers” in center.

```
import React from 'react';
import Comp1 from './Comp1';


const Comp= () => {
return(
    <>
    <h1 style={{textAlign:"center"}}>Comparison of Numbers</h1>
    <Comp1/>
    </>
)}
export default Comp
```

Comp1: This component compares the two numbers for inequality.

```
import React, { useContext } from 'react';
import Comp2 from './Comp2';
import {Num1,Num2} from './Main';

const Comp1 = () => {
  const Number1 = useContext(Num1);
   const Number2 = useContext(Num2);

if (Number2>Number1) {
    return(
        <h1>
     <span style={{color:"red"}}>Number 1 ({Number1})</span> is lower than <span
style={{color:"green"}}>Number 2({Number2})</span>
</h1>)}
if (Number2<Number1) {
    return (
    <h1>
        <span style={{color:"green"}}>Number 1 ({Number1}) </span>is higher than <s
pan style={{color:"red"}}>Number 2 ({Number2})</span>
    </h1>
)}
return <Comp2/>}

export default Comp1
```

Comp2: This component compares the two numbers and displays a message if both numbe rs are equal. “Number 1 (Provided number) and Number 2 (Provided number) are same” in h2 tag and in orange color.

```
import React, { useContext } from 'react';
import {Num1,Num2} from './Main';

const Comp2 = () => {
   const Number1 = useContext(Num1);
   const Number2 = useContext(Num2);

   if (Number1 === Number2) {
     return <h2 style={{color:"orange"}}>Number 1 ({Number1}) and Number 2 ({Num
ber2}) are same </h2>;
    }
  else {
     return null;
   }}

export default Comp2;
```

Task17 Create a React app to perform the following tasks using functional components:
Implement the following components in your React application:
• Main.js to set up the router and define the routes.
• Home.js for the Home page.
• Product.js for the Product page.

1. Create a React Router:Include two routes: Home and Product. Implement navigation betw
een these routes.

2. Create the following routes and components:When a user clicks on the Home page link, it should navigate to the Home page and display "Welcome to LJU" within an <h1> heading wi
th
blue color. Also, include link to product page.

A Product page that displays three products' information (name, price, and description) using propsWhen a user clicks on the Product page link, it should navigate to the Product page and display three products' information with price and description using props.

Main.js

```
import {BrowserRouter as Router,Route,Routes,Link} from "react-router-dom";
import Home from './home';
import Product from './product'
import Nopage from './nopage';
import img1 from "./img1.jpg"
import img2 from "./img2.jpg"
import img3 from "./img3.png"
function Main() {
const products=[{name:"p1",price:20000, pic:img1},{name:"p2",price:14000,
pic:img2},{name:"p3",price:40000, pic:img3}]
return (
<div>
<Router baseName="/calendar">
<div className='main-route'>
<ul>
<li><Link to="/">Home</Link></li>
<li><Link to="/product">Product</Link></li>
</ul>
</div>

<Routes>
<Route path="/" element={<Home/>}/>
<Route path="/product" element={<Product info={products}/>}/>
<Route path="*" element={<Nopage/>}/>
</Routes>
</Router>
</div>
);
}
export default Main
```

home.js

```
function Home(){
return (
<div>
<h1 style={{color:"blue"}}>Home page</h1>
<a href="/product">Product</a>
</div>
)
}
export default Home
```

nopage.js

```
function Nopage() {
return (
<div>
<h1>404 Page not Found</h1>
</div>
)
}
export default Nopage
```

product.js

```
const Product = (Props)=>{
return(
<div>
{

Props.info.map((p)=>{
return(
<div>
<img src={p.pic} alt="product" height={200} width={200}/>
<h1>{p.name}</h1>
<h1>{p.price}</h1>
</div>
)
})
}
<h1>{Props.Name} : {Props.Price}</h1>
</div>
);
}
export default Product;
```

For Reference Only

Task18 (From LocalStorage)

Create react app to perform the tasks as asked below.
Create a form that has two fields user name and password and once the form is submitted this form data should be displayed on the next page named "/UD1".

App.js

```
import Login from './Login';

import { BrowserRouter as Router,Routes,Route } from 'react-router-dom';
import UD1 from './UD1';

function App() {
  return (
    <div>
 <Router>
      <Routes>
        {/* <Route path="/" element={<Home />} /> */}
        <Route path="/" element={<Login /> }/>
        <Route path="/UD1" element={<UD1/>} />
        {/* Other routes */}
      </Routes>
</Router>
    </div>
  );
  }
export default App;
```

Login.JS

```
import React, { useState } from 'react'

function Login() {
 const[formdata,setformdata]=useState({});

function handlechange(event){

 const name = event.target.name;
 const value = event.target.value;

 setformdata({...formdata, [name]: value})
 }
```

```
 function handlesubmit(e){
 e.preventDefault();
 const regex = /^(?=.*[A-Z]).{8,}$/;
 if((regex.test(formdata.pass))){
 localStorage.setItem("username",formdata.fname);
 window.location.pathname="/UD1"}
   else{
      alert("Password must contain Minimum Eight letter with one Uppercase")
       }
 }

return (
 <div>
 <form className="form-data" onSubmit={handlesubmit}>

 <label>First Name:</label>
 <input type="text" name="fname" onChange={handlechange} /><br/>

 <label>Password:</label>
 <input type="password" name="pass" onChange={handlechange}required/><br/>

 <button type="submit">Submit</button> <br/>
 </form>
 </div>
 )
}
Export default Login
```

UD1.js

```
import React from 'react'

export default function UD1() {
    const username=localStorage.getItem("username");
  return (
    <div>
      <h2 className='App-header'> UserDeatil</h2>
      <h1>Welcome  {username} </h1>
    </div>
  )
}
```