

1. Create user define date npm module by using node.js and access date npm package module to read the year is leap year or not.

Source code :

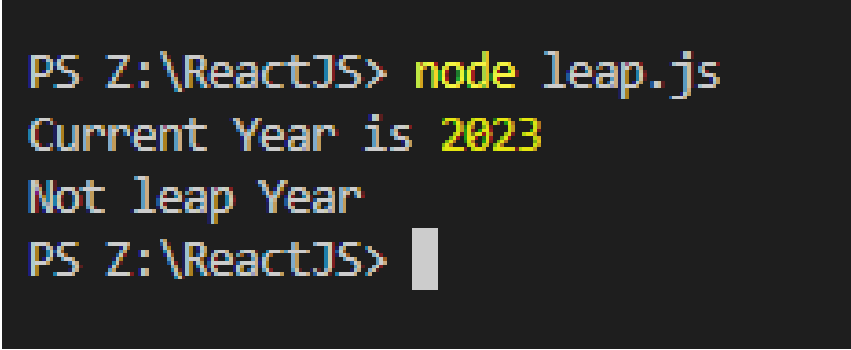
**Second.js**

```
exports.date=function(){  
  return new Date().getFullYear();  
}
```

**leap.js**

```
const year=require('./second');  
console.log('Current Year is',year.date());  
if(year.date()%400==0 || (year.date()%4==0&& year.date()%100!=0)){  
  console.log("Leap Year");  
}  
else{  
  console.log("Not leap Year");  
}
```

Output:



```
PS Z:\ReactJS> node leap.js  
Current Year is 2023  
Not leap Year  
PS Z:\ReactJS> █
```

## 2.Create nested function component by using CDN's (without react environment)

### Source Code :

```
<!DOCTYPE html>
<html>
<head>
<script src="https://unpkg.com/react@18/umd/react.development.js" crossorigin></script>
<script src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"
crossorigin></script>
<script src="https://unpkg.com/@babel/standalone/babel.min.js"></script>
</head>
<body>
<div id="root"></div>
<script type="text/babel">
  function Greet() {

    let date=new Date();
    let hours=date.getHours();
    let msg;

    if(hours>5 && hours<12){
      msg='Good Morning! Have a nice Day Ahead';
    }

    else if(hours>=12 && hours<16){
      msg="Good Afternoon! It's Too Hot here,Don't Go Outside";
    }

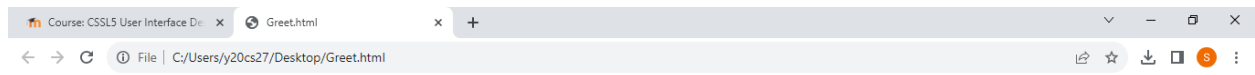
    else if(hours>=16 && hours<21){
      msg='Good Evening! Have Some Tea and Snacks';
    }

    else if(hours>=21){
      msg='Good Night! Have a Sweet Dreams';
    }
    return <h1 style="color:green"> Time is {hours} hours now and {msg} </h1>;
  }

  function Welcome() {
    return <Greet/>;
  }
```

```
const container = document.getElementById('root');  
const root = ReactDOM.createRoot(container);  
root.render(<Welcome/>)  
</script>  
</body>  
</html>
```

### **Output :**



### 3. Create and develop reactJS app folder structure using npx and npm utilities and display the welcome react app message

#### Source Code :

##### App.js

```
import rvr from './rvr.jpg';

import './App.css';

function App() {

  return (

    <div className="App">

      <header className="App-header">

        <img src={rvr} className="App-logo" alt="rvr" />

        <p>

          Welcome to My First ReactJS Application

        </p>

      </header>

    </div>

  );

}

export default App;
```

##### App.css

```
.App {

  text-align: center;

}
```

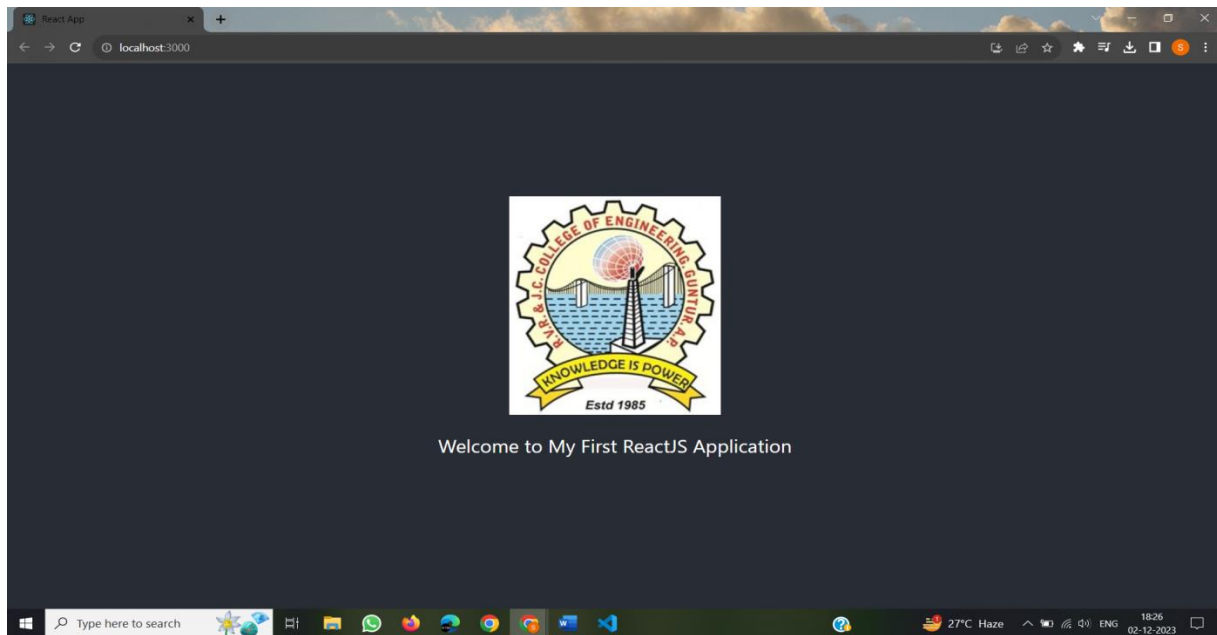
```
.App-logo {  
  height: 40vmin;  
  pointer-events: none;  
}  
  
.App-header {  
  background-color: #282c34;  
  min-height: 100vh;  
  display: flex;  
  flex-direction: column;  
  align-items: center;  
  justify-content: center;  
  font-size: calc(10px + 2vmin);  
  color: white;  
}
```

### **Index.js**

```
import React from 'react';  
import ReactDOM from 'react-dom/client';  
import './index.css';  
import App from './App';  
import reportWebVitals from './reportWebVitals';  
const root = ReactDOM.createRoot(document.getElementById('root'));  
root.render(  
  <React.StrictMode>
```

```
<App />  
  
</React.StrictMode>  
  
);  
  
reportWebVitals();
```

### **Output :**



#### 4. Create React 2 types of Components ( Class Component and Functional Component ) and demonstrate each Component

##### Source Code :

##### ClassComp.js

```
import React from 'react';

class Class1 extends React.Component{

  render(){

    return (<h1 style={{textAlign:"center",backgroundColor:"yellow",color:"green"}}>My First
Class Component</h1>);

  }

}

export default Class1;
```

##### FunctionalComp.js

```
function Func1(){

  return (

<h1

  style={{

    color:"red",

    backgroundColor:"yellow",

    textAlign:"center"
```

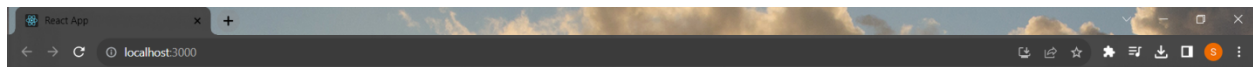
```
    }}  
    >My first Function Component</h1>  
    );  
}  
export default Func1;
```

### **Index.js**

```
import React from 'react';  
import ReactDOM from 'react-dom/client';  
import './index.css';  
import reportWebVitals from './reportWebVitals';  
import Func1 from './FunctionalComp.js';  
import Class1 from './ClassComp.js'  
const root = ReactDOM.createRoot(document.getElementById('root'));  
root.render(  
  <React.StrictMode>  
    <Func1/>  
    <Class1/>  
  </React.StrictMode>  
);  
reportWebVitals();
```



## Output :



**My first Function Component**

**My First Class Component**



## 5. Create React application by using different style components in React

### Source Code :

#### Style.js

```
import React from 'react';
import './style1.css';
const style2={
  fontSize:'50px',
  textAlign: 'center',
  backgroundColor:"yellow",
  color: 'red'
};
class Class2 extends React.Component{
  render(){
    return (
      <div>
        <p className='style1'>This is the example of external CSS</p>
        <p style={style2}>This is the example of Inline CSS</p>
      </div>
    );
  }
}
export default Class2;
```

### **Style1.css**

```
.style1
{
    font-size: 60px;
    text-align: center;
    background-color: aqua;
    color: rgb(71, 21, 187);
}
```

### **Index.js**

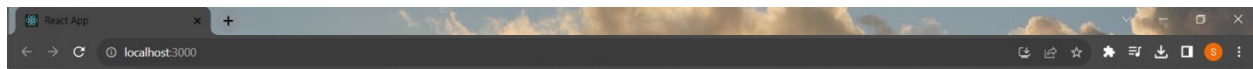
```
import React from 'react';
import ReactDOM from 'react-dom/client';
import reportWebVitals from './reportWebVitals';
import Class2 from './Class2';

const root = ReactDOM.createRoot(document.getElementById('root'));

root.render(
  <React.StrictMode>
    <Class2/>
  </React.StrictMode>
);

reportWebVitals();
```

## Output :



This is the example of external CSS

This is the example of Inline CSS



**6. Create a simple Counter application using ReactJS which increments and decrements count dynamically on screen as user clicks on the button by using props and states concept**

**Source Code :**

**Counter.js**

```
import React from "react";
import "./Counter.css";

class Counter1 extends React.Component{

  constructor(){
    super();

    this.state={
      counter:0
    };
  }

  Incr={()=>{
    this.setState({
      counter:this.state.counter+1
    });
  }};

  Decr={()=>{
    this.setState({
      counter:this.state.counter-1
    });
  }}
}
```

```

render(){
  const mystyle={
    textAlign:"center"
  }
  return(
<center>
<div className="main" >
<h1 style={mystyle}>Counter Application : ReactJS</h1>
<h2 style={mystyle}>Counter = {this.state.counter}</h2>
<div style={mystyle}><button className="button" onClick={this.Incr} >Increment</button>
<button className="button" onClick={this.Decr}>Decrement</button>
</div>
</div>
</center>
  )
}
}

export default Counter1;

```

### **Counter.css**

```

.main{
  border-radius: 8px;
  font-size: 18px;
  background-color: rgba(197, 242, 244, 0.979);
  width: 700px;

```

```
    height: 230px;

    border-radius: 10px;

    color: rgb(21, 20, 22);

    margin: 140px;

    padding: 20px;
}

.button{

    color: rgb(238, 247, 247);

    background-color: blue;

    text-align: center;

    margin-right: 10px;

    font-weight: bold;

    width: 100px;

    height: 30px;

    border-radius: 6px;

    border: 2px solid blue;
}
```

### **Index.js**

```
import React from 'react';

import ReactDOM from 'react-dom/client';

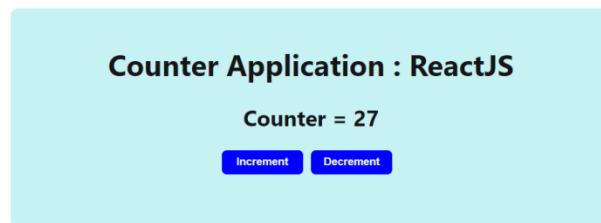
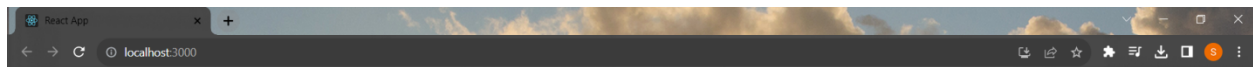
import reportWebVitals from './reportWebVitals';

import Counter from './Counter';

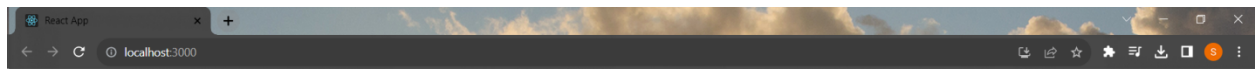
const root = ReactDOM.createRoot(document.getElementById('root'));
```

```
root.render(  
  <React.StrictMode>  
    <Counter/>  
  </React.StrictMode>  
);  
reportWebVitals();
```

### **Output :**







## 7. Create a simple Login Form single page application using ReactJS

### Source Code :

#### Login.js

```
import React, { useState } from "react";
import "./Login.css";

function App6() {
  const [errorMessages, setErrorMessages] = useState({});
  const [isSubmitted, setIsSubmitted] = useState(false);
  const data = [
    {
      username: "chrb",
      password: "abc"
    },
    {
      username: "rishi",
      password: "def"
    },
    {
      username: "RVR",
      password: "def"
    }
  ];
};
```

```

const errors = {
  username: "Invalid Username",
  pass: "Invalid Password"
};

const handleSubmit = (event) => {
  event.preventDefault();

  var { username, pass } = document.forms[0];

  const userData = data.find((user) => user.username === username.value);

  if (userData) {
    if (userData.password !== pass.value) {
      setErrorMessages({ name: "pass", message: errors.pass });
    } else {
      setIsSubmitted(true);
    }
  } else {
    setErrorMessages({ name: "username", message: errors.username });
  }
};

const renderErrorMessage = (name) =>
  name === errorMessages.name && (
    <div className="error">{errorMessages.message}</div>
  );

const WebForm = (
  <div className="form">

```

```

<form onSubmit={handleSubmit}>
  <div className="input-container">
    <label>Username </label>
    <input type="text" name="uname" required />
    {renderErrorMessage("uname")}
  </div>
  <div className="input-container">
    <label>Password </label>
    <input type="password" name="pass" required />
    {renderErrorMessage("pass")}
  </div>
  <div className="button-container">
    <input type="submit" value="LOGIN"/>
  </div>
</form>
</div>
);
return (
  <div className="main1">
    <div className="login-form">
      <div className="title">Sign In</div>
      {isLoggedIn ? <div>User is successfully logged in</div> : WebForm}
    </div>
  </div>
);

```

```

    );
}

export default Login;

Login.css

.main1{

    font-family: sans-serif;

    display: flex;

    align-items: center;

    justify-content: center;

    flex-direction: column;

    height: 100vh;

    font-family: Georgia, Times, "Times New Roman", serif;

    background-color: lightcoral;

}

input[type="text"],

input[type="password"] {

    height: 30px;

    width: 150px;

    border: 1px solid rgba(0, 0, 0, 0.2);

}

input[type="submit"] {

    margin-top: 10px;

    width: 100px;

    font-size: 15px;

```

```
background: #01d28e;

border: 2px solid #01d28e;

color: #fff;

padding: 10px 20px;
}

input[type="submit"]:hover {

background: #6cf0c2;

}

.button-container {

display: flex;

justify-content: center;

}

.login-form {

background-color: rgb(71, 117, 12);

padding: 3rem;

box-shadow: 0 4px 8px 0 rgba(0, 0, 0, 0.2), 0 6px 20px 0 rgba(0, 0, 0, 0.19);

}

.list-container {

display: flex;

}

.error {

color: red;

font-size: 20px;

}
```

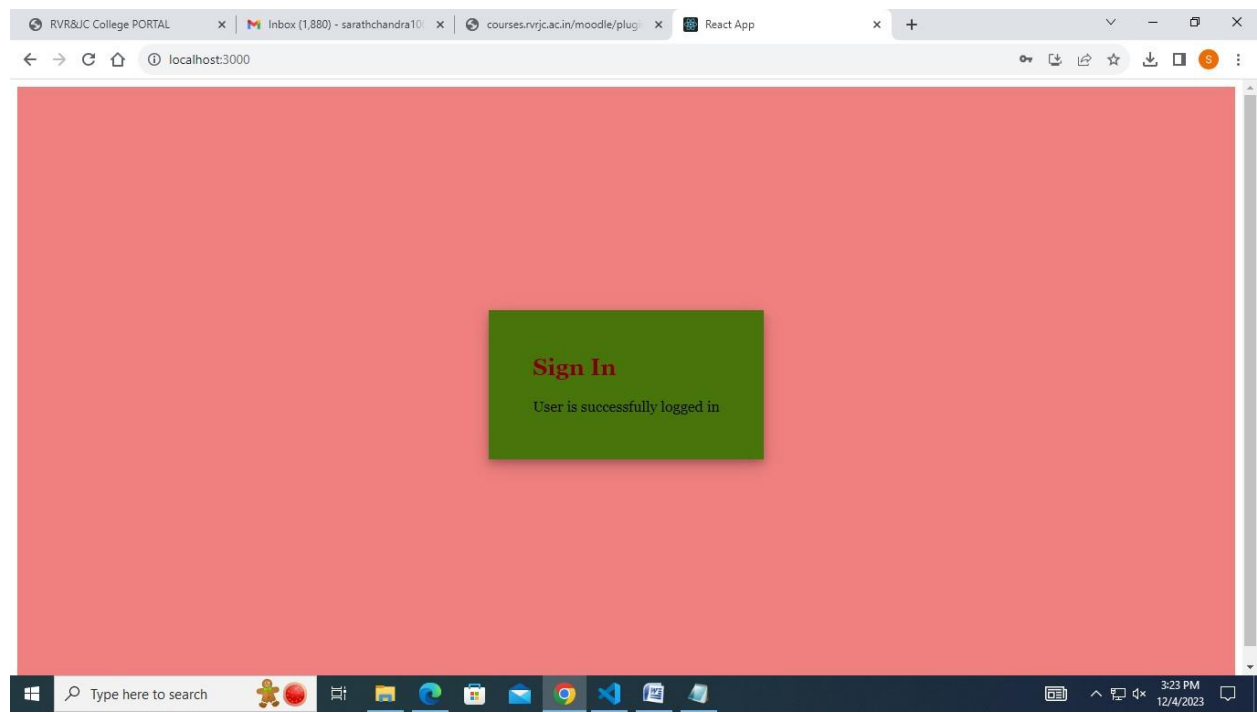
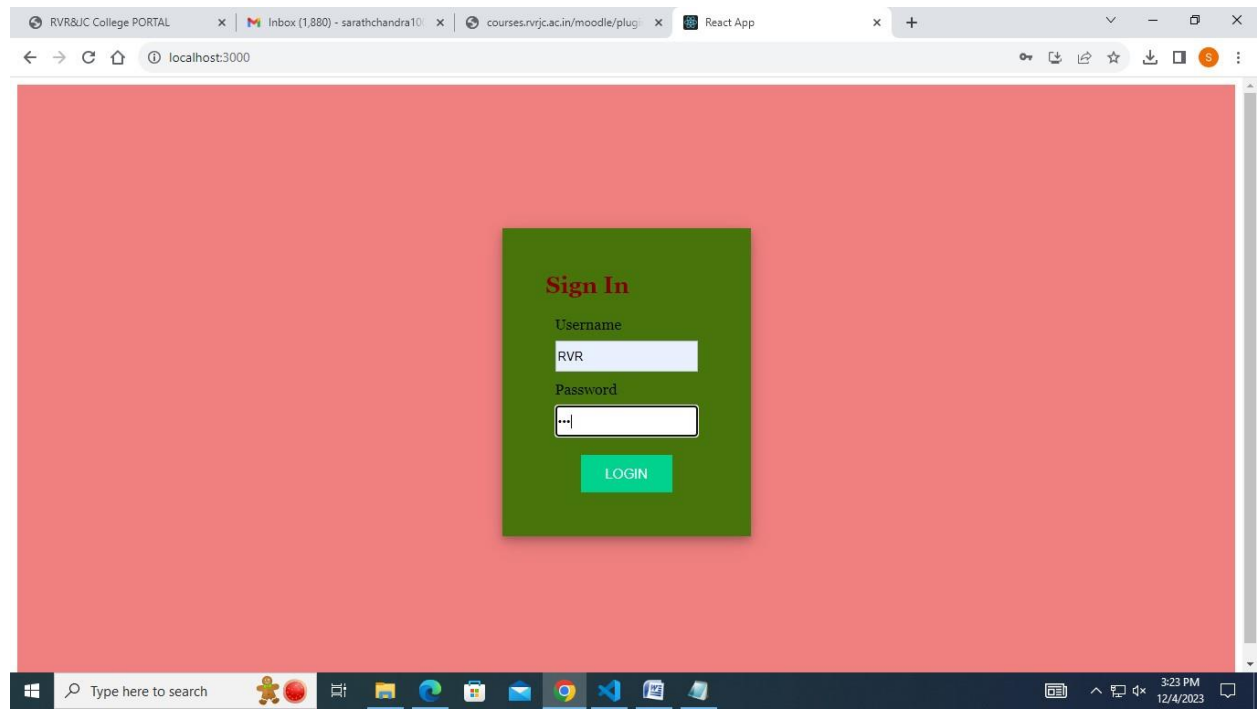
```
.title {  
  font-size: 25px;  
  margin-bottom: 20px;  
  color:maroon;  
  font-weight: bold;  
}
```

```
.input-container {  
  display: flex;  
  flex-direction: column;  
  gap: 8px;  
  margin: 10px;  
}
```

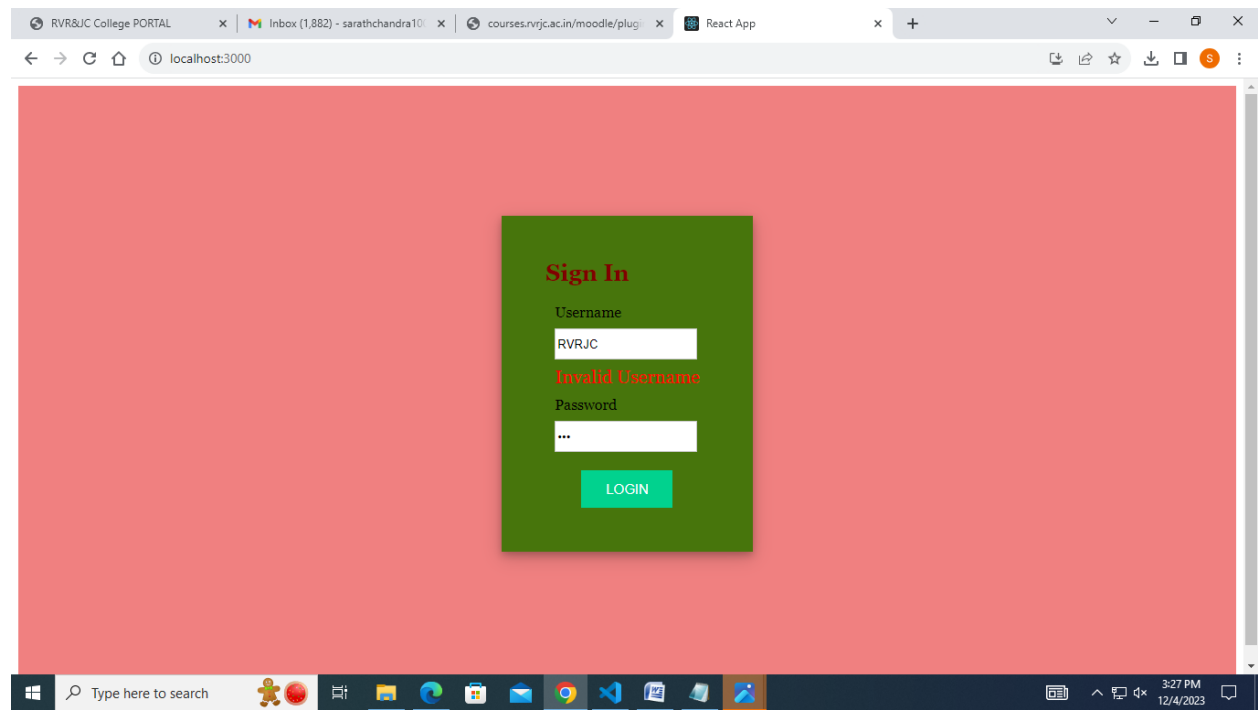
### **Index.js**

```
import React from 'react';  
import ReactDOM from 'react-dom/client';  
import reportWebVitals from './reportWebVitals';  
import Login from './Login';  
  
const root = ReactDOM.createRoot(document.getElementById('root'));  
root.render(  
  <React.StrictMode>  
    <Login/>  
  </React.StrictMode>  
>);  
reportWebVitals();
```

## Output :







## 8. Create a simple Registration form with different input elements using event handling

### Source Code :

#### Registration.js

```
import rvr from './rvr.jpg'

import './Registration.css'

import {useState} from 'react'

function Registration(){

  const [Name,setName]=useState("")

  const [Mobile,setMobile]=useState("")

  const [Age,setAge]=useState("")

  const [Email,setEmail]=useState("")

  const [Password,setPassword]=useState("")

  return (

    <center>

    <h1>R.V.R & J.C College of Engineering</h1>

    <div className='main1'>

    <div className='App'>

    <header className='App-header'>

    <img src={rvr} className='App-logo' alt='rvr' />

    </header>

    </div>

    <div className='main'>
```

## <h2>STUDENT REGISTRATION FORM</h2>

<form>

<pre>

<b>Name : </b><input className='input' placeholder='Name' onChange={(e)=>  
setName(e.target.value)}/><br/>

<b>Mobile : </b><input className='input' placeholder='Mobile' onChange={(e)=>  
setMobile(e.target.value)}/><br/>

<b>Age : </b><input className='input' placeholder='Age' onChange={(e)=>  
setAge(e.target.value)}/><br/>

<b>Email : </b><input className='input' placeholder='Email' onChange={(e)=>  
setEmail(e.target.value)}/><br/>

<b>Password : </b><input className='input' type='password' placeholder='Password'  
onChange={(e)=> setPassword(e.target.value)}/><br/><br/>

<b>Confirm Password : </b><input className='input' type='password' placeholder='Confirm  
Password' onChange={(e)=> setPassword(e.target.value)}/><br/><br/>

<b>Address : </b>

<textarea rows="4" cols="31" className='input' placeholder='Address' onChange={(e)=>  
setPassword(e.target.value)}/><br/><br/>

<div className='gender'>

<b>Gender : </b>

<input type='radio' className='input1' name='gender' />Male

<input type='radio' className='input1' name='gender' />Female

<input type='radio' className='input1' name='gender' />Transgender <br/>

</div>

</pre>

<button type='submit' className='button'>Login</button>

<button type='submit' className='button'>SignUp</button>

```
</form>
</div>
</div>
</center>
)
}
export default Registration;
```

### **Registration.css**

```
.button{
  color: rgb(238, 247, 247);
  background-color: blue;
  text-align: center;
  margin-right: 10px;
  font-weight: bold;
  width: 100px;
  height: 30px;
  border-radius: 6px;
  border: 2px solid blue;
}
.App-header {
  min-height: 8vh;
  display: flex;
  flex-direction: column;
```

```
    align-items: center;

    justify-content: center;

    font-size: calc(10px + 2vmin);

    color: white;
}

.App{

    float: left;

    padding-left: 200px;

    padding-top: 200px;
}

.input{

    width: 200px;

    height: 30px;

    margin: 1% 2%;

    border-radius: 8px;
}

.main{

    background-color: rgb(203, 181, 181);

    width: 550px;

    height: 540px;

    border-radius: 10px;

    margin: 60px;

    float: right;
}
```

```
.input1{
  margin:1% 1%;
}

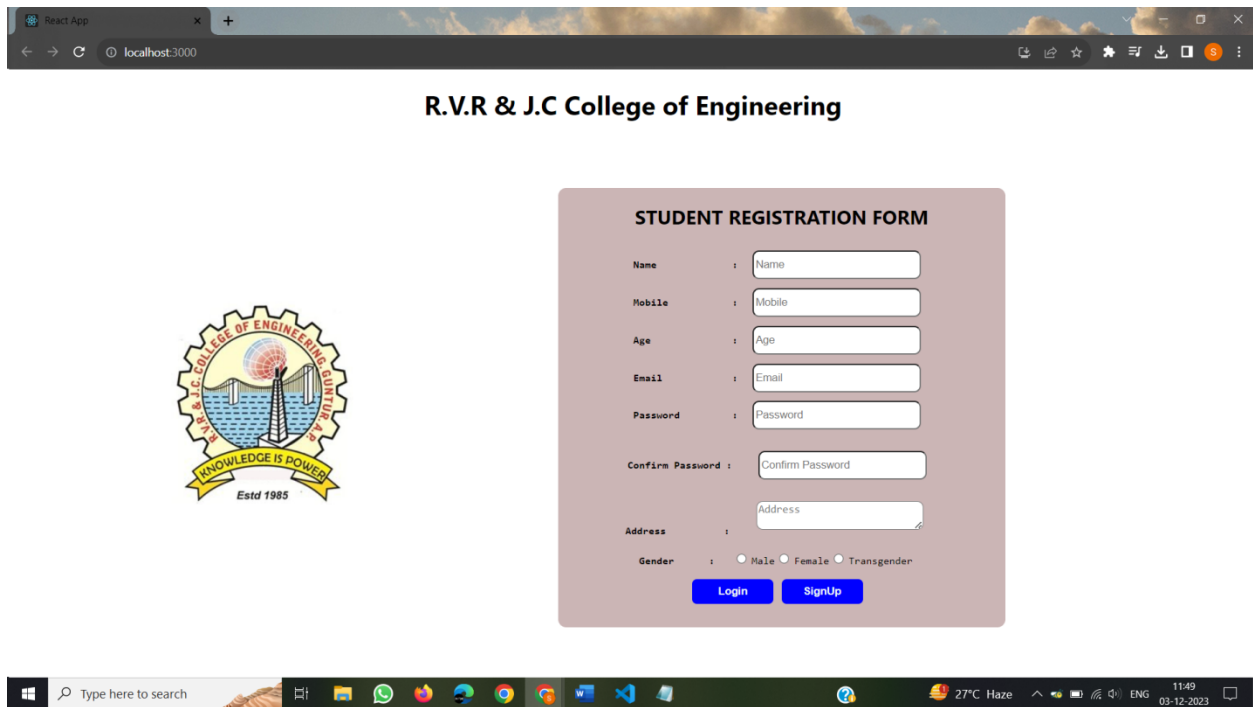
.main1{
  padding-right: 250px;
}
```

### **Index.js**

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import reportWebVitals from './reportWebVitals';
import Registration from './Registration';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    < Registration />
  </React.StrictMode>
);
reportWebVitals();
```

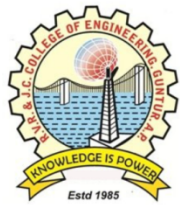
## Output :



React App

localhost:3000

### R.V.R & J.C College of Engineering



#### STUDENT REGISTRATION FORM

Name :

Mobile :

Age :

Email :

Password :

Confirm Password :

Address :

Gender : ☐ Male ☐ Female ☐ Transgender

[Login](#) [SignUp](#)

Type here to search

27°C Haze 11:49 03-12-2023

## 9. Build basic arithmetic calculator by using ReactJS. Use Statehook with button events.

### Source Code :

#### Calculator.js

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

import './Calculator.css';

function Calculator() {

  const [value, setValue] = useState("");

  return (

    <div className="container">

      <div className="calculator">

        <form action="">

          <div className='display'>

            <input type= "text" value={value}/>

          </div>

          <div>

            <input type="button" value="AC" onClick={e => setValue("")}/>

            <input type="button" value="DE" onClick={e => setValue(value.slice(0, -1))}/>

            <input type="button" value="." onClick={e => setValue(value + e.target.value)}/>

            <input type="button" value="/" onClick={e => setValue(value + e.target.value)}/>

          </div>

          <div>

            <input type="button" value="7" onClick={e => setValue(value + e.target.value)}/>


```



```

<input type="button" value="8" onClick={e => setValue(value + e.target.value)}/>
<input type="button" value="9" onClick={e => setValue(value + e.target.value)}/>
<input type="button" value="*" onClick={e => setValue(value + e.target.value)}/>
</div>
<div>
  <input type="button" value="4" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="5" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="6" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="+" onClick={e => setValue(value + e.target.value)}/>
</div>
<div>
  <input type="button" value="1" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="2" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="3" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="-" onClick={e => setValue(value + e.target.value)}/>
</div>
<div>
  <input type="button" value="00" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="0" onClick={e => setValue(value + e.target.value)}/>
  <input type="button" value="=" className='equal' onClick={e =>
setValue(eval(value))}/>
</div>
</form>
</div>

```

```
</div>

);

}

export default Calculator;
```

### **Calculator.css**

```
.container {

  width: 100%;

  height: 100vh;

  display: flex;

  align-items: center;

  justify-content: center;

  background: linear-gradient(140deg, rgb(255, 255, 255), rgb(255, 255, 255));

}

.calculator {

  padding: 20px;

  border-radius: 10px;

  background-color: rgb(211, 211, 211);

}

form input {

  outline: 0;

  width: 60px;

  height: 60px;

  font-size: 16px;
```

```
background-color: rgb(216, 130, 0);

margin: 2px;

border-radius: 10px;

color: white;

font-weight: bolder;

cursor: pointer;

}

form input[type="button"]:hover {

background-color: rgb(255, 94, 0);

}

form .display {

display: flex;

justify-content: flex-end;

margin: 5px 0px 15px 0px;

}

form .display input {

text-align: right;

font-size: 40px;

padding: 5px 10px;

background-color: rgb(64, 64, 64);

}

form input.equal{

width: 123px;

}
```

### Index.js

```
import React from 'react';

import ReactDOM from 'react-dom/client';

import reportWebVitals from './reportWebVitals';

import Calculator from './Calculator.js';

const root = ReactDOM.createRoot(document.getElementById('root'));

root.render(

  <React.StrictMode>

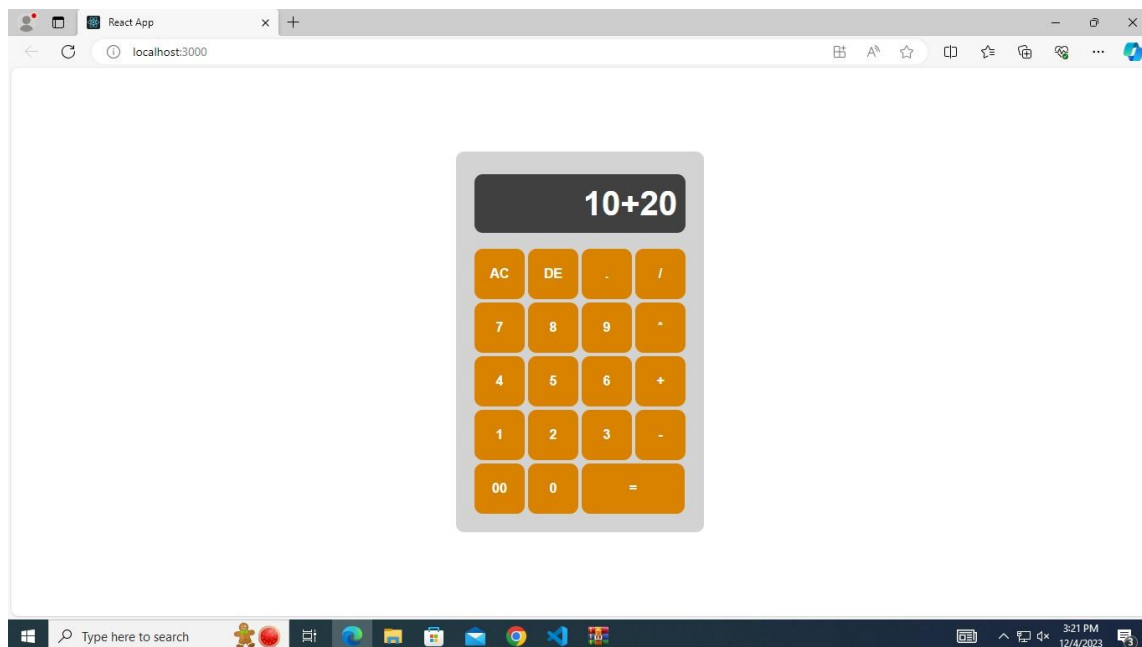
    <Calculator/>

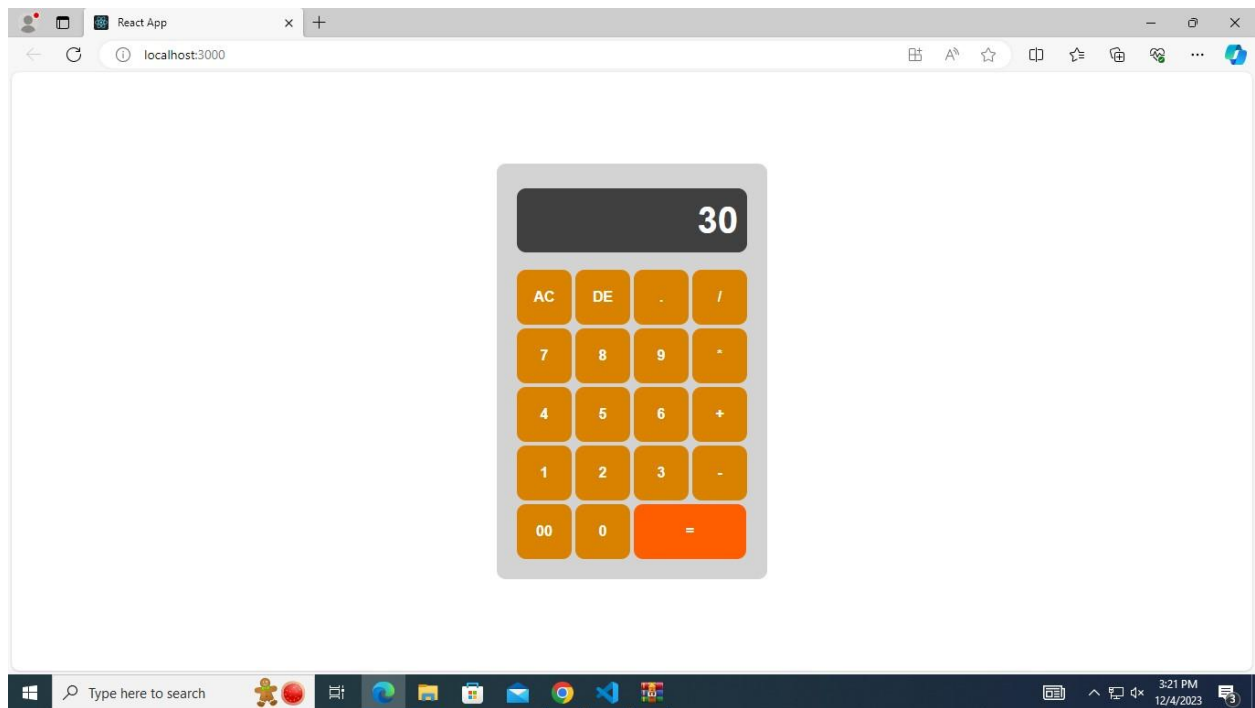
  </React.StrictMode>

);

reportWebVitals();
```

### Output :





**10. Build student name search form filter with basic search functionalities by using array.filter method and filter utilities.**

**Source Code :**

**Search.js**

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

import logo from './logo.svg';

import './Search.css';

function Search() {

  const list = [

    "Y20CS021",

    "Y20CS091",

    "Y20CS171",

    "Y20CE021",

    "Y20CE091",

    "Y20CE171",

    "Y20ECE021",

    "Y20ECE091",

    "Y20ECE171",

    "Y20IT021",

    "Y20IT091",

    "Y20IT171",

    "Ratna Babu",

    "Rishi Babu",
```

```
"Deepak",
"Jyothi",
"Rama Raju",
"Sunil",
"Sitha",
"Ramana",
"Ratna Raju"
];

const [filterList, setFilterList] = useState(list);

const handleSearch = (event) => {
  if (event.target.value === "") {
    setFilterList(list);
    return;
  }

  const filteredValues = list.filter(
    (item) =>
      item.toLowerCase().indexOf(event.target.value.toLowerCase()) !== -1
  );

  setFilterList(filteredValues);
};

return (
  <div className="app11">
    <div className="App">
      <header className="App-header">
```

```

    <img src={logo} className="App-logo" alt="logo" />
  </header>

  <p>STUDENT INFORMATION SEARCH!</p> </div>

  <div>

    <b>Search: <input name="query" type="text" onChange={handleSearch} />

  </b></div>

  {filterList &&
    filterList.map((item, index) => (
      <div key={index}>{item}</div> //Display each item
    ))}
  </div>

);
}

export default Search;

```

### **Search.css**

```

.app1 {
  font-family: sans-serif;
  display: flex;
  align-items: center;
  justify-content: center;
  flex-direction: column;
  gap: 20px;
  height: 100vh;
}

```



```
font-family: Cambria, Cochin, Georgia, Times, "Times New Roman", serif;
}
b{
  color:red;
  font-size:2pc;
}
p{
  color:yellowgreen;
}
input {
  padding: 1%;
  width: 100%;
  margin: 1% 2%;
}
```

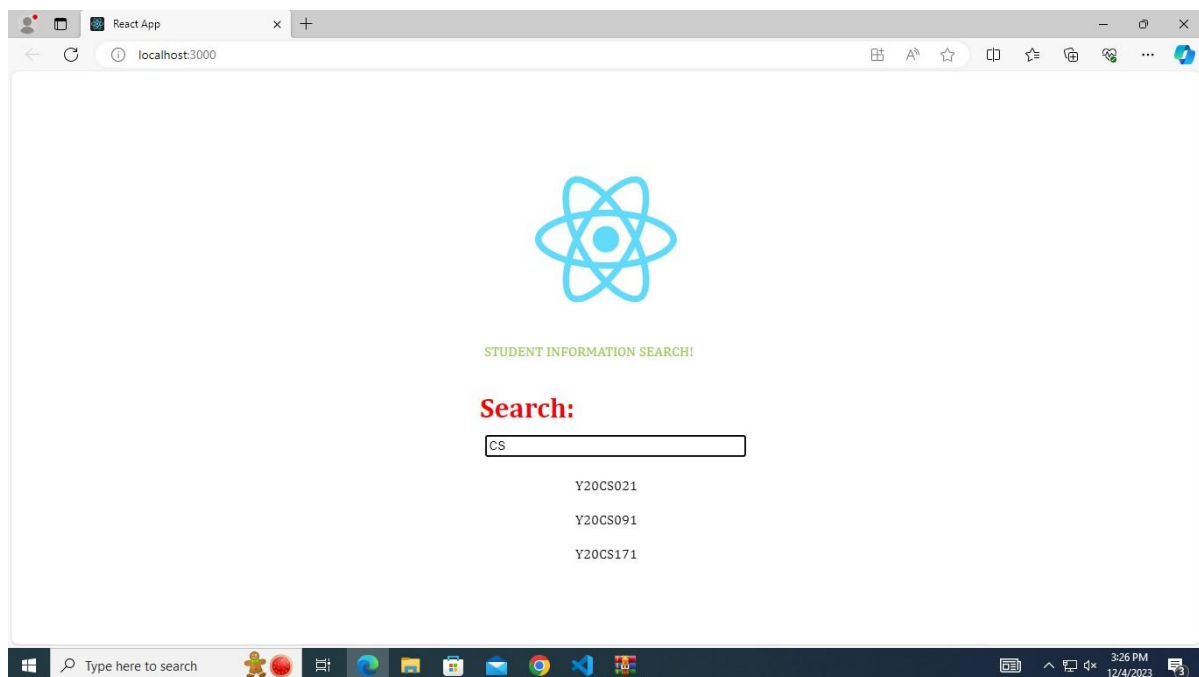
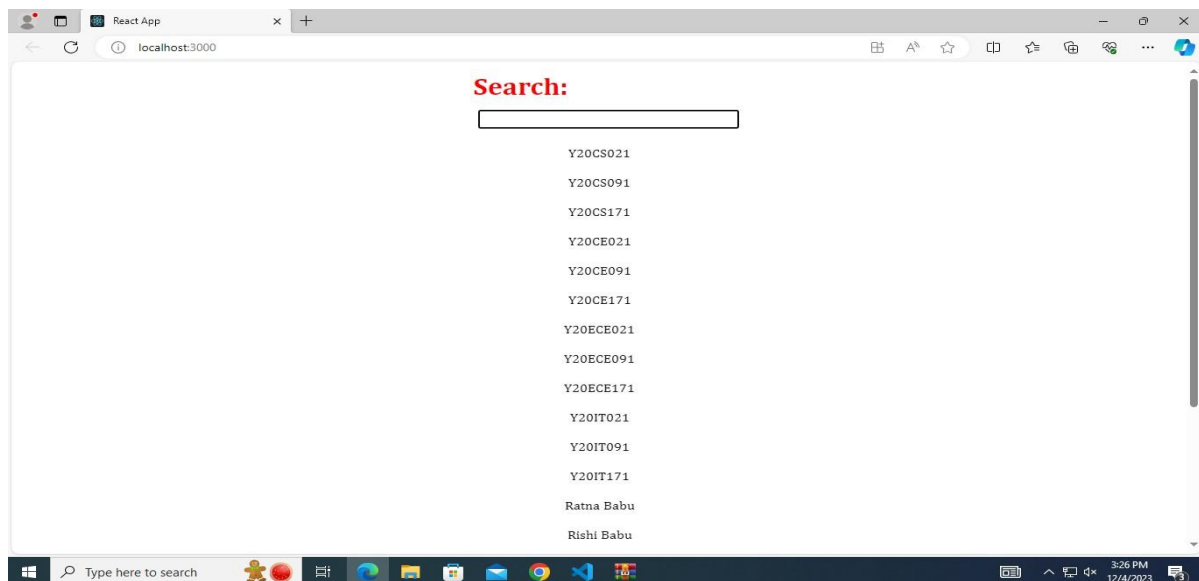
### **Index.js**

```
import React from 'react';
import ReactDOM from 'react-dom/client';
import reportWebVitals from './reportWebVitals';
import Search from './Search';

const root = ReactDOM.createRoot(document.getElementById('root'));
root.render(
  <React.StrictMode>
    <Search/>
```

```
</React.StrictMode>  
  
);  
  
reportWebVitals();
```

### **Output :**



## 11. create a React JS calendar along with events that are triggered based on user actions.

Source Code :

### Calendar.js

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

import Calendar from "react-calendar";

import "react-calendar/dist/Calendar.css";

import "./Calendar.css";

function Calendar () {

  const allMonthValues = [

    "January",

    "February",

    "March",

    "April",

    "May",

    "June",

    "July",

    "August",

    "September",

    "October",

    "November",

    "December"

  ];

  const [selectedDate, setSelectedDate] = useState();
```

```

const [calendarText, setCalendarText] = useState(`No Date is selected`);

const handleDateChange = (value) => {

  setSelectedDate(value);

  setCalendarText(`The selected Date is ${value.toDateString()}`);

};

const handleYearChange = (value) => {

  const yearValue = value.getFullYear();

  setCalendarText(`${yearValue} Year is selected`);

};

const handleMonthChange = (value) => {

  const monthValue = allMonthValues[value.getMonth()];

  setCalendarText(`${monthValue} Month is selected`);

};

return (

  <div className="app1">

    <h2 className="calander-details">{calendarText}</h2>

    <Calendar

      onClickMonth={handleMonthChange}

      onClickYear={handleYearChange}

      onChange={handleDateChange}

      value={selectedDate}

    />

  </div>

);

```

```
}  
  
export default Calendar;
```

### **Calendar.css**

```
.app1 {  
  display: flex;  
  align-items: center;  
  justify-content: center;  
  flex-direction: column;  
  gap: 20px;  
  height: 100vh;  
  color: black;  
  font-family: Georgia, Times, "Times New Roman", serif;  
}
```

### **Index.js**

```
import React from 'react';  
import ReactDOM from 'react-dom/client';  
import './index.css';  
import reportWebVitals from './reportWebVitals';  
import Calendar from './Calendar/App7';  
  
const root = ReactDOM.createRoot(document.getElementById('root'));  
root.render(  
  <React.StrictMode>
```

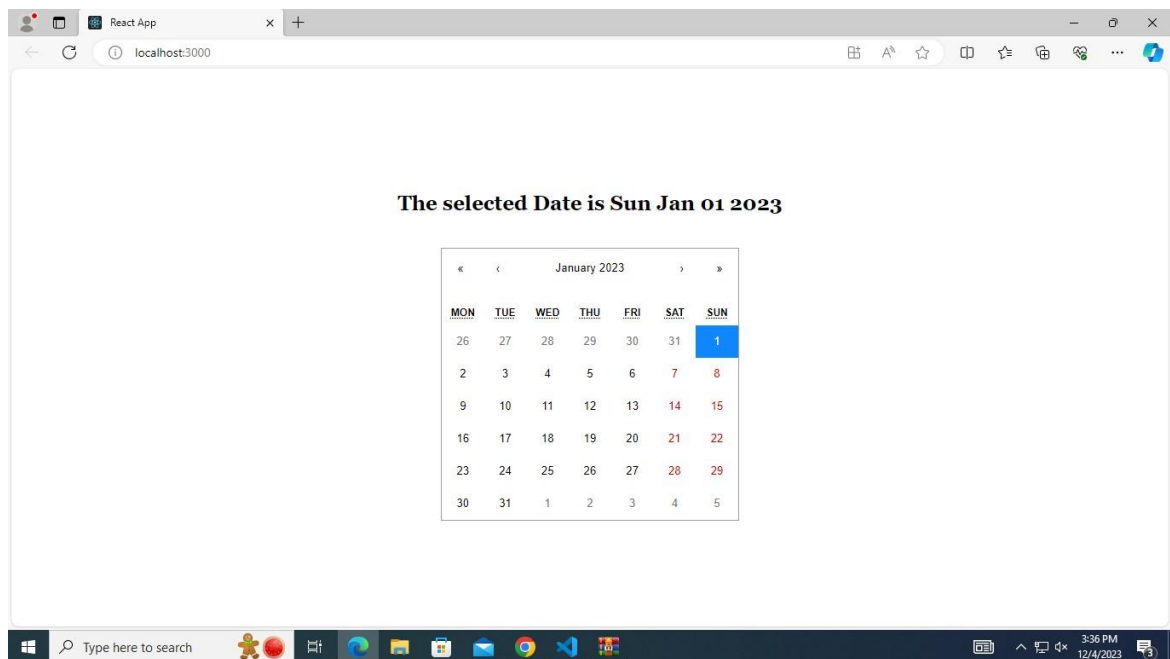
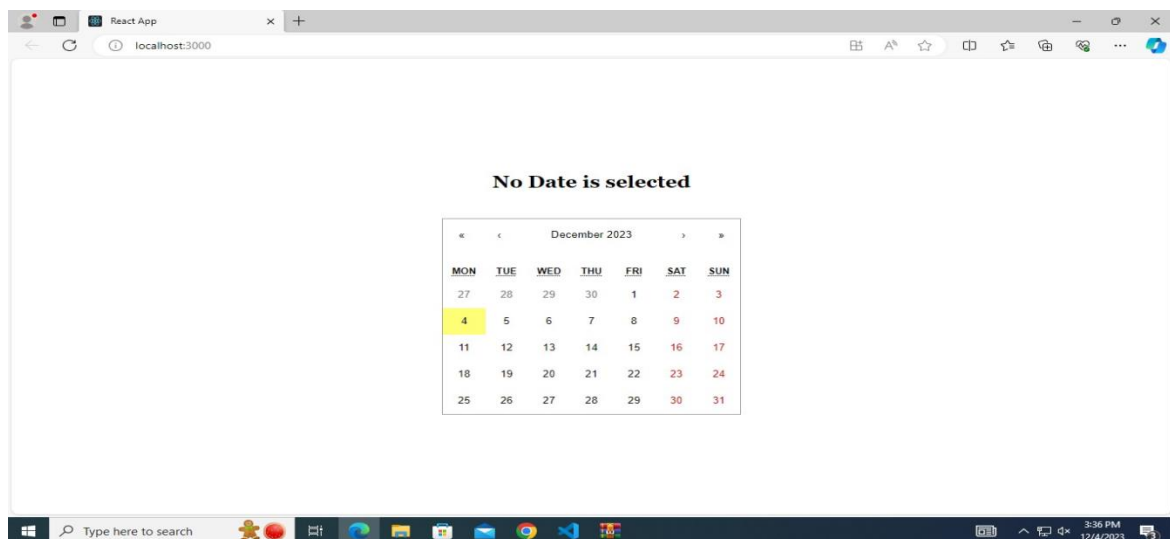
```
<Calendar/>

</React.StrictMode>

);

reportWebVitals();
```

### **Output :**



## 12.Create a react router application by using React Router utilities

### Source Code :

#### Router1.js

```
import "./Router1.css";

import {
  BrowserRouter as Router,
  Routes,
  Route,
  Navigate,
} from "react-router-dom";

import Home from "./Comp/Home";
import About from "./Comp/About";
import ContactUs from "./Comp/ContactUs";

function Router1() {
  return (
    <>
      <Router>
        <Routes>
          <Route
            exact
            path="/"
            element={<Home />}
          />
        </Routes>
      </Router>
    </>
  );
}
```

```

        />
        <Route
            path="/about"
            element={<About />}
        />
        <Route
            path="/contactus"
            element={<ContactUs />}
        />
        <Route
            path="*"
            element={<Navigate to="/" />}
        />
    </Routes>
</Router>
</>
);
}
export default Router1;

```

### **Router1.css**

```

.App {
    text-align: center;
}

```



```
.App-logo {  
  height: 40vmin;  
  pointer-events: none;  
}  
  
@media (prefers-reduced-motion: no-preference) {  
  .App-logo {  
    animation: App-logo infinite 20s linear;  
  }  
}  
  
.App-header {  
  background-color: #060c01;  
  display: flex;  
  flex-direction: column;  
  align-items: center;  
  justify-content: center;  
  font-size: calc(10px + 2vmin);  
  color: white;  
}  
  
.App-link {  
  color: #61dafb;  
}  
  
@keyframes App-logo-spin {  
  from {  
    transform: rotate(0deg);
```

```
}  
  
to {  
  transform: rotate(360deg);  
}  
}
```

### **Index.js**

```
import React from 'react';  
  
import ReactDOM from 'react-dom/client';  
  
import reportWebVitals from './reportWebVitals';  
  
import Router1 from './Router1';  
  
const root = ReactDOM.createRoot(document.getElementById('root'));  
  
root.render(  
  <React.StrictMode>  
    <Router/>  
  </React.StrictMode>  
);  
  
reportWebVitals();
```

## Output :

