Web Lab Exercise13

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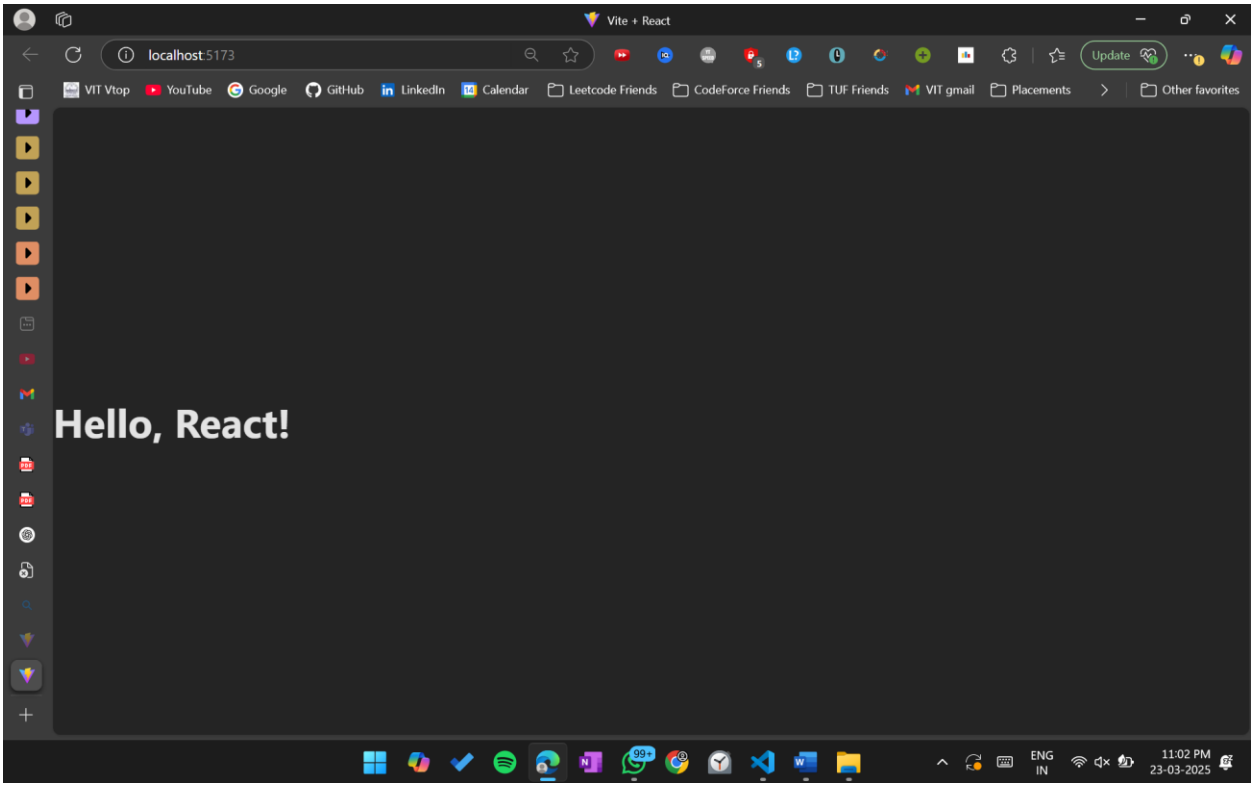
Subject	Web Programming
Slot	L15+L16+L19+L20
Venue	AB3 – 202

1. (i) Create a React component that displays "Hello, React!" inside an <h1> tag without
JSX.

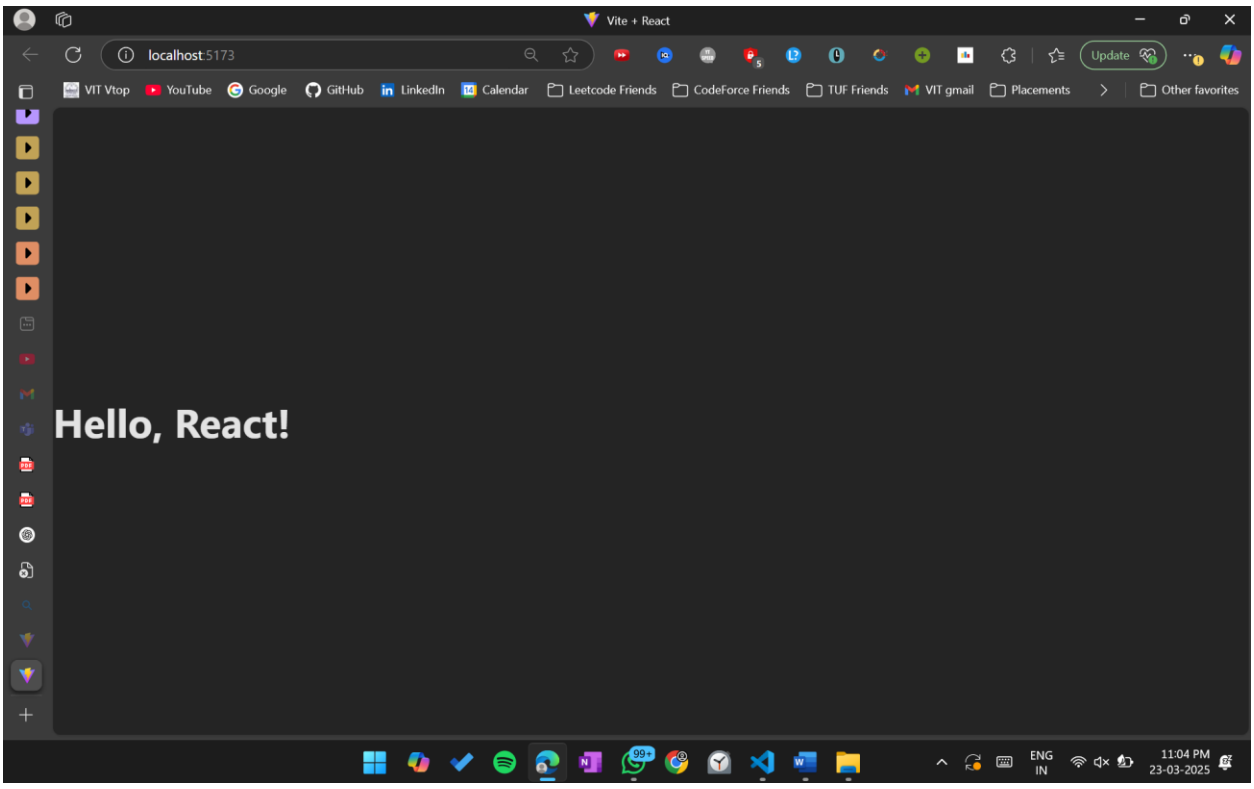
```
import React from 'react';


function HelloReact() {
 return React.createElement('h1', null, 'Hello, React!');
}

export default function App() {
 return (
   <div>
     {React.createElement(HelloReact)}
   </div>
 );
}
```



(ii) Modify the above code and solve using React JSX

```
import React from 'react';
```

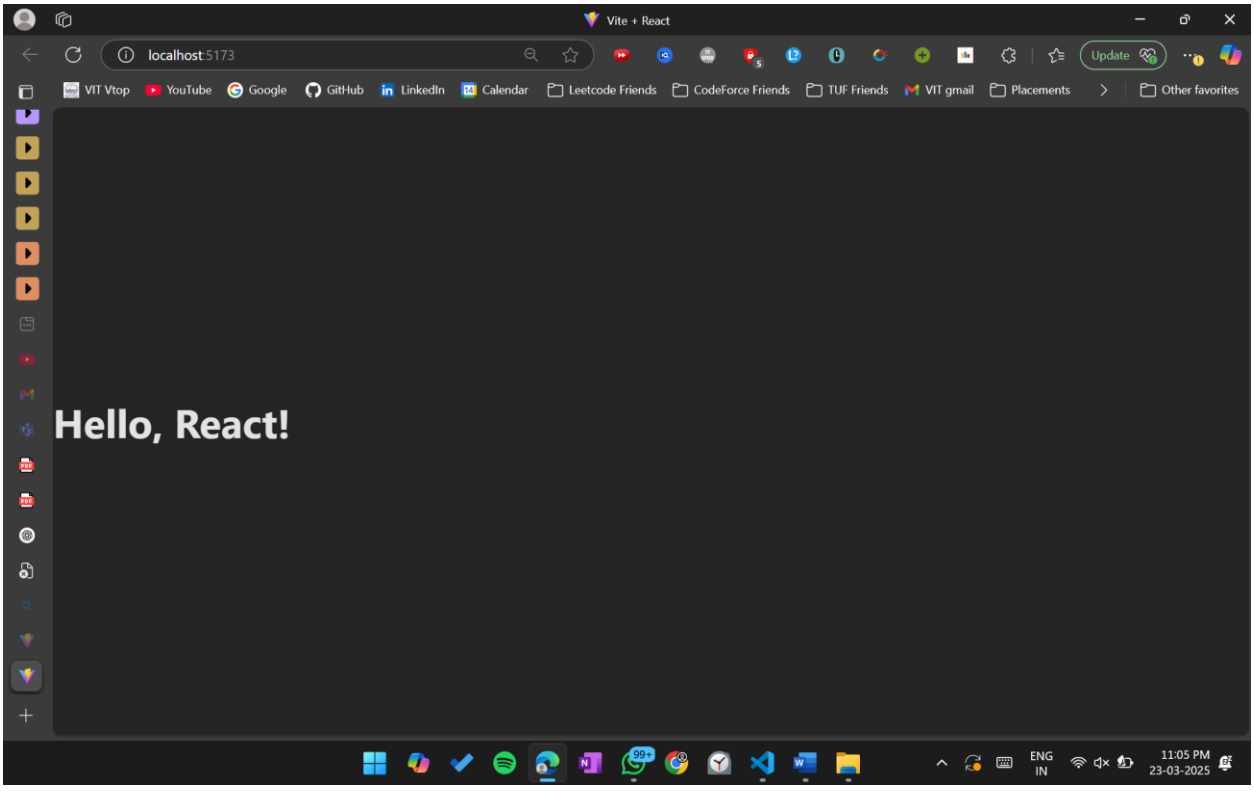
```jsx
function HelloReact() {
 return <h1>Hello, React!</h1>;
}


export default function App() {
 return (
   <div>

     <HelloReact />
   </div>
 );
}
```



(iii) Modify the above component to display a message stored in a variable.

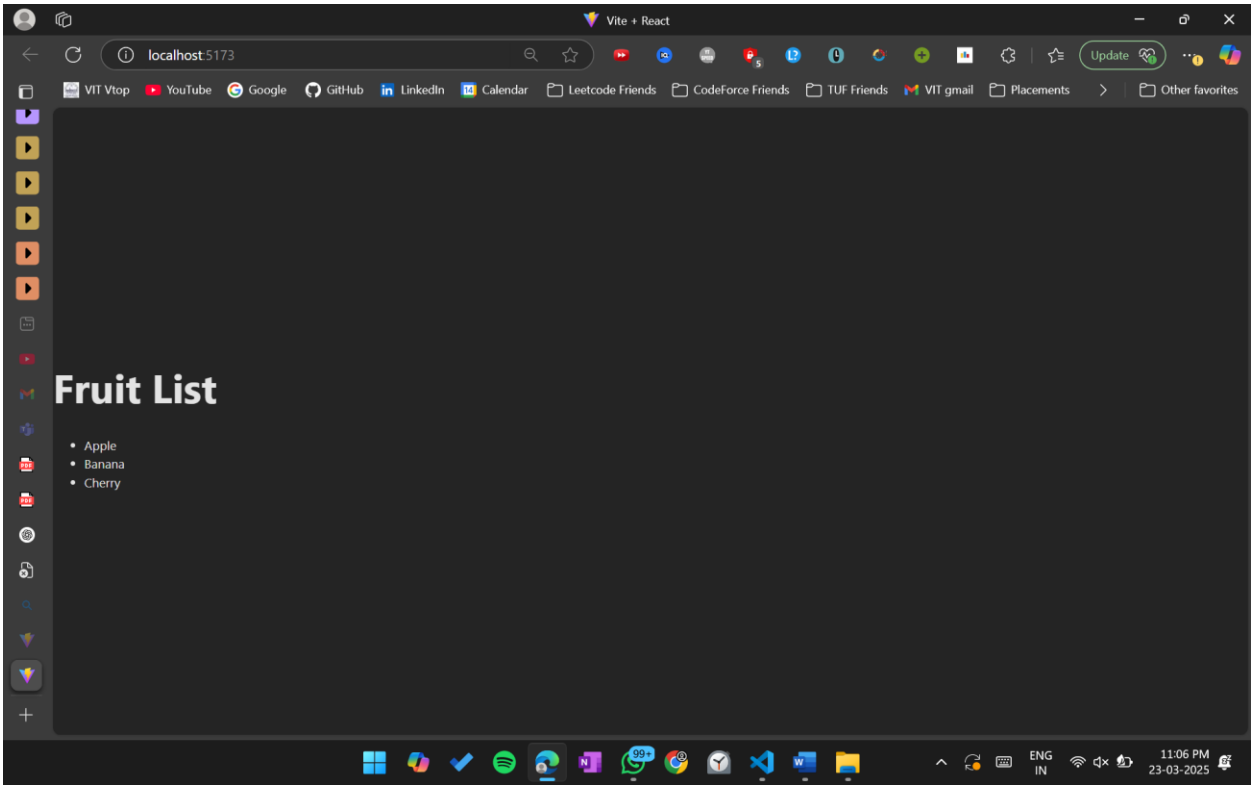
```jsx
import React from 'react';

function HelloReact() {
```

```
  const message = 'Hello, React!';
  return React.createElement('h1', null, message);
}

export default function App() {
  return (
    <div>
      {React.createElement(HelloReact)}
    </div>
  );
}
```



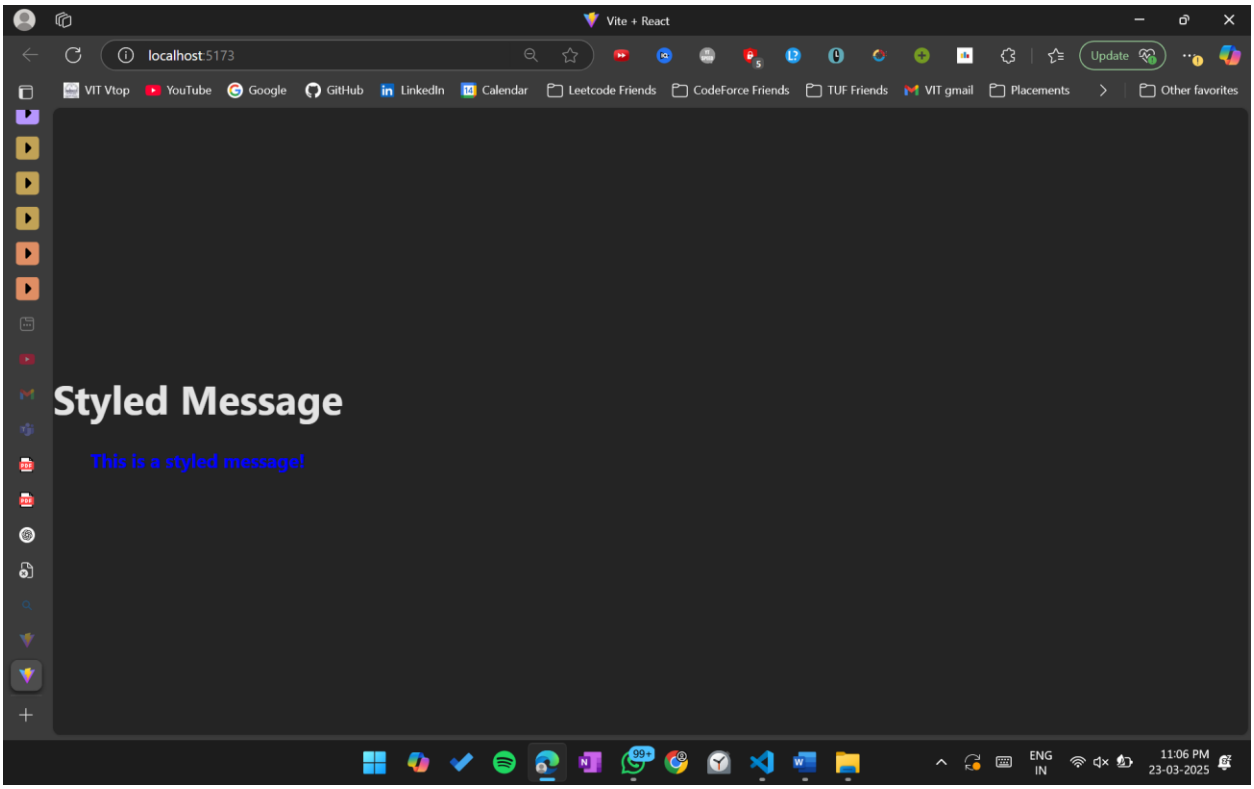
2. Create a component that renders a list of three fruits dynamically.

```
import React from 'react';

function FruitList() {
 const fruits = ['Apple', 'Banana', 'Cherry'];
 return (
   <ul>
     {fruits.map((fruit, index) => (
       <li key={index}>{fruit}</li>
     ))}
   </ul>
 );
}
export default function App() {
 return (
   <div>
     <h1>Fruit List</h1>
     <FruitList />
   </div>
 );
}
```



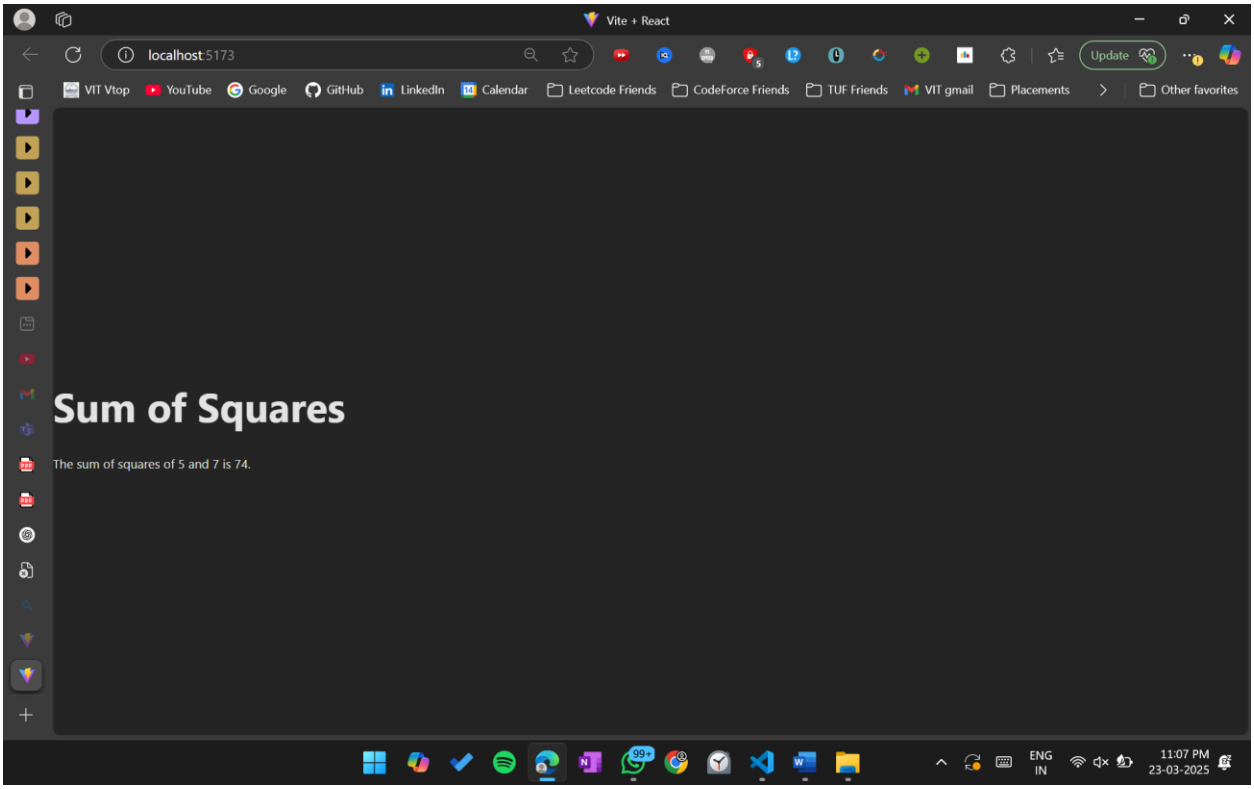
3. Create a component that displays a styled message using inline CSS in JSX.

```
import React from 'react';

function StyledMessage() {
 const styles = {
   color: 'blue',
   fontSize: '24px',
   fontWeight: 'bold',
   textAlign: 'center',
 };
 return <p style={styles}>This is a styled message!</p>;
}
export default function App() {
 return (
   <div>
     <h1>Styled Message</h1>
     <StyledMessage />
   </div>
 );
}
```



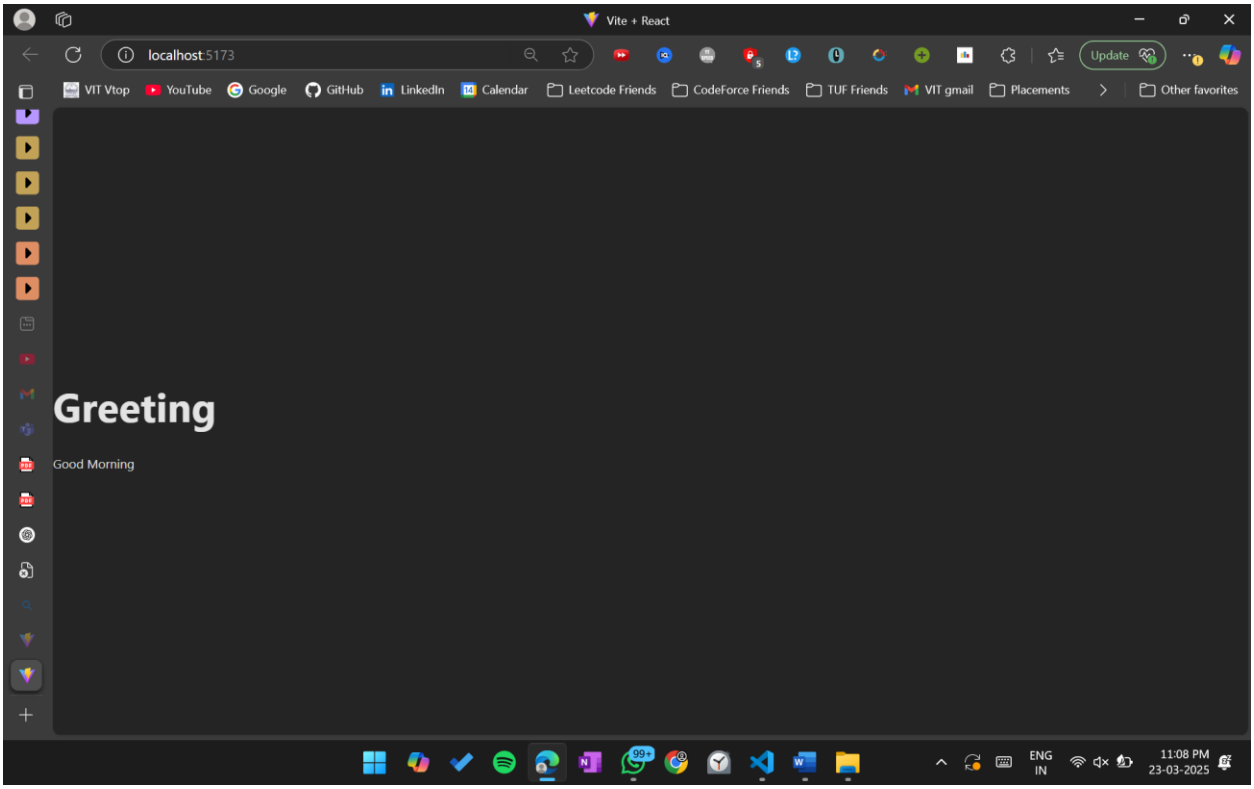
4. Create a component that displays the sum of squares of two numbers inside a <p> tag.

```
import React from 'react';
function SumOfSquares() {
 const num1 = 5;
 const num2 = 7;
 const sumOfSquares = num1 * num1 + num2 * num2;

 return <p>The sum of squares of {num1} and {num2} is {sumOfSquares}.</p>;
}

export default function App() {
 return (
   <div>
     <h1>Sum of Squares</h1>
     <SumOfSquares />
   </div>
 );
}
```



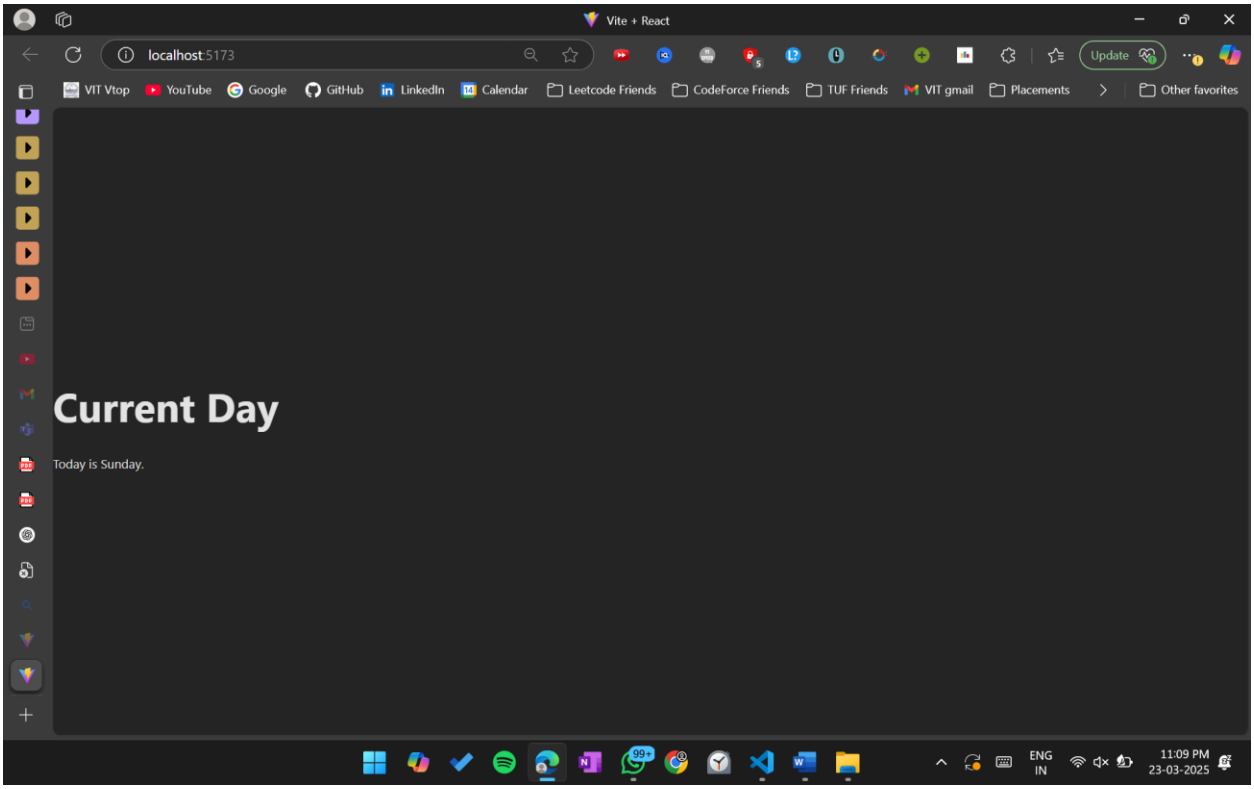
5. Create a component that displays "Good Morning" if isMorning is true, otherwise display "Good Evening."

```
import React from 'react';
function Greeting() {
 const isMorning = true;

 return <p>{isMorning ? 'Good Morning' : 'Good Evening'}</p>;
}
export default function App() {
 return (
   <div>
     <h1>Greeting</h1>
     <Greeting />
   </div>
 );
}
```



6. Create a React component that displays the current day of the week dynamically using JavaScript's

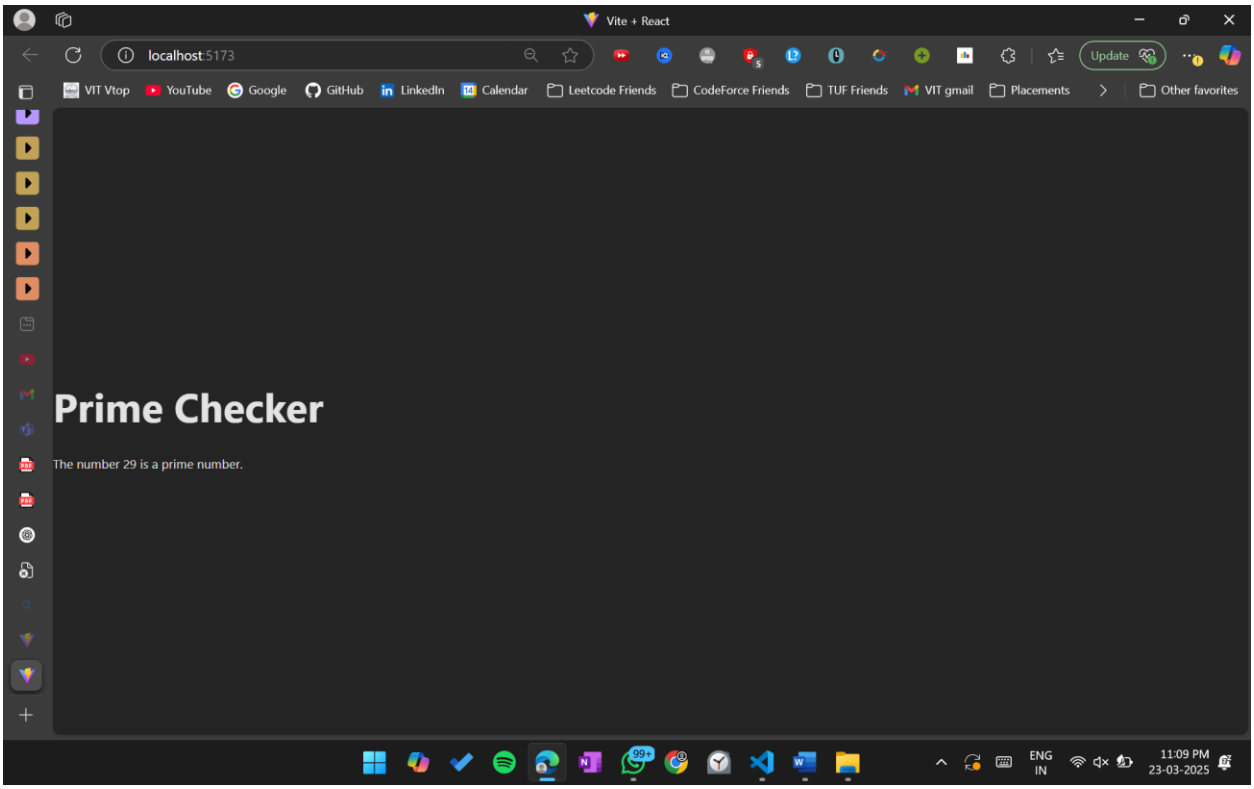
```
import React from 'react';
function CurrentDay() {
 const daysOfWeek = ['Sunday', 'Monday', 'Tuesday', 'Wednesday',
'Thursday', 'Friday', 'Saturday'];
 const today = new Date();
 const currentDay = daysOfWeek[today.getDay()];

 return <p>Today is {currentDay}.</p>;
}

export default function App() {
 return (
   <div>
     <h1>Current Day</h1>
     <CurrentDay />
   </div>
 );
}
```



7. Create a React component that checks whether a given number is prime and displays the result.

```
import React from 'react';
function isPrime(num) {
 if (num <= 1) return false;
 for (let i = 2; i <= Math.sqrt(num); i++) {
   if (num % i === 0) return false;
 }
 return true;
}

function PrimeChecker() {
 const number = 29;
 const result = isPrime(number) ? 'is a prime number' : 'is not a prime
number';

 return <p>The number {number} {result}.</p>;
}

export default function App() {
 return (
```

```
    <div>
      <h1>Prime Checker</h1>
      <PrimeChecker />
    </div>
  );
}
```

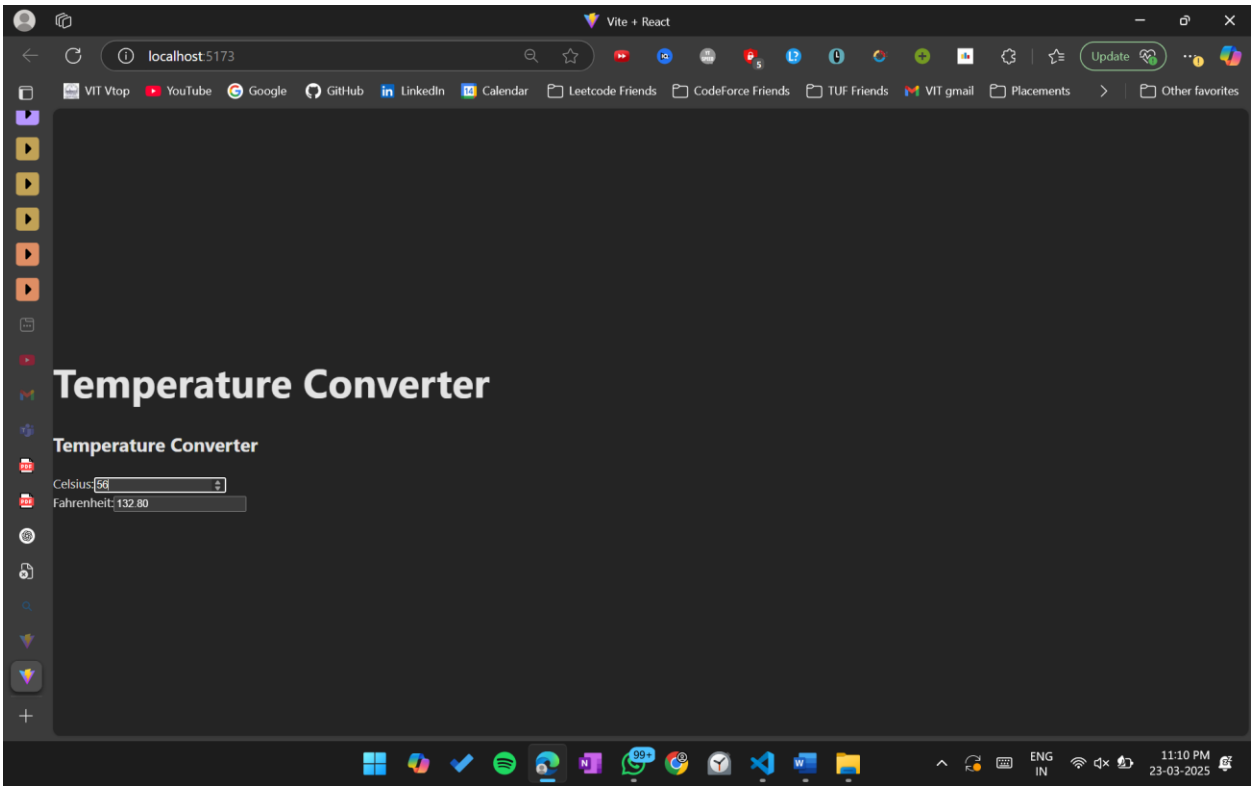


8. Create a React class component called TemperatureConverter that allows the user to convert a temperature from Celsius to Fahrenheit and Fahrenheit to Celsius.

```
import React, { Component } from 'react';
class TemperatureConverter extends Component {
 constructor(props) {
   super(props);
   this.state = {
     temperature: '',
     scale: 'celsius',
   };
 }

 handleCelsiusChange = (e) => {
   this.setState({ temperature: e.target.value, scale: 'celsius' });
 };

 handleFahrenheitChange = (e) => {
   this.setState({ temperature: e.target.value, scale: 'fahrenheit' });
 };
```

```
 render() {
   const { temperature, scale } = this.state;
   const celsius =
     scale === 'fahrenheit' ? ((temperature - 32) * 5) / 9 : temperature;
   const fahrenheit =
     scale === 'celsius' ? (temperature * 9) / 5 + 32 : temperature;

   return (
     <div>
       <h2>Temperature Converter</h2>
       <div>
         <label>
           Celsius:
           <input
             type="number"
             value={scale === 'celsius' ? temperature :
celsius.toFixed(2)}
             onChange={this.handleCelsiusChange}
           />
         </label>
       </div>
       <div>
         <label>
           Fahrenheit:
           <input
             type="number"
             value={scale === 'fahrenheit' ? temperature :
fahrenheit.toFixed(2)}
             onChange={this.handleFahrenheitChange}
           />
         </label>
       </div>
     </div>
   );
 }
}

export default function App() {
 return (
   <div>
     <h1>Temperature Converter</h1>
```

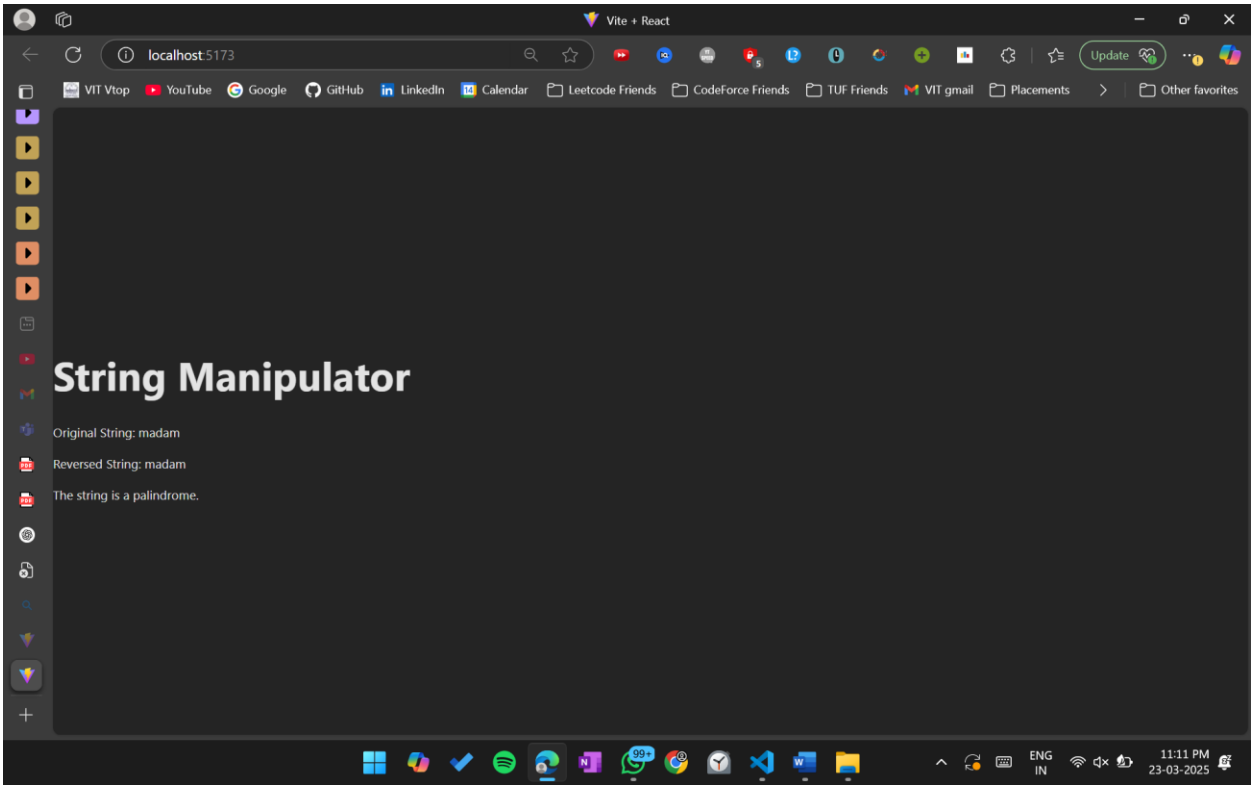
```
      <TemperatureConverter />
    </div>
  );
}
```



9. Create a component that takes a string (e.g., "React") and displays its reverse ("tcaeR") inside a <p> tag and display whether the string is palindrome or not

```
import React from 'react';
function StringManipulator() {
 const str = 'madam';
 const reversedStr = str.split('').reverse().join('');
 const isPalindrome = str === reversedStr;

 return (
   <div>
     <p>Original String: {str}</p>
     <p>Reversed String: {reversedStr}</p>
     <p>{isPalindrome ? 'The string is a palindrome.' : 'The string is not
a palindrome.'}</p>
   </div>
 );
}

// Export the App component
export default function App() {
 return (
```

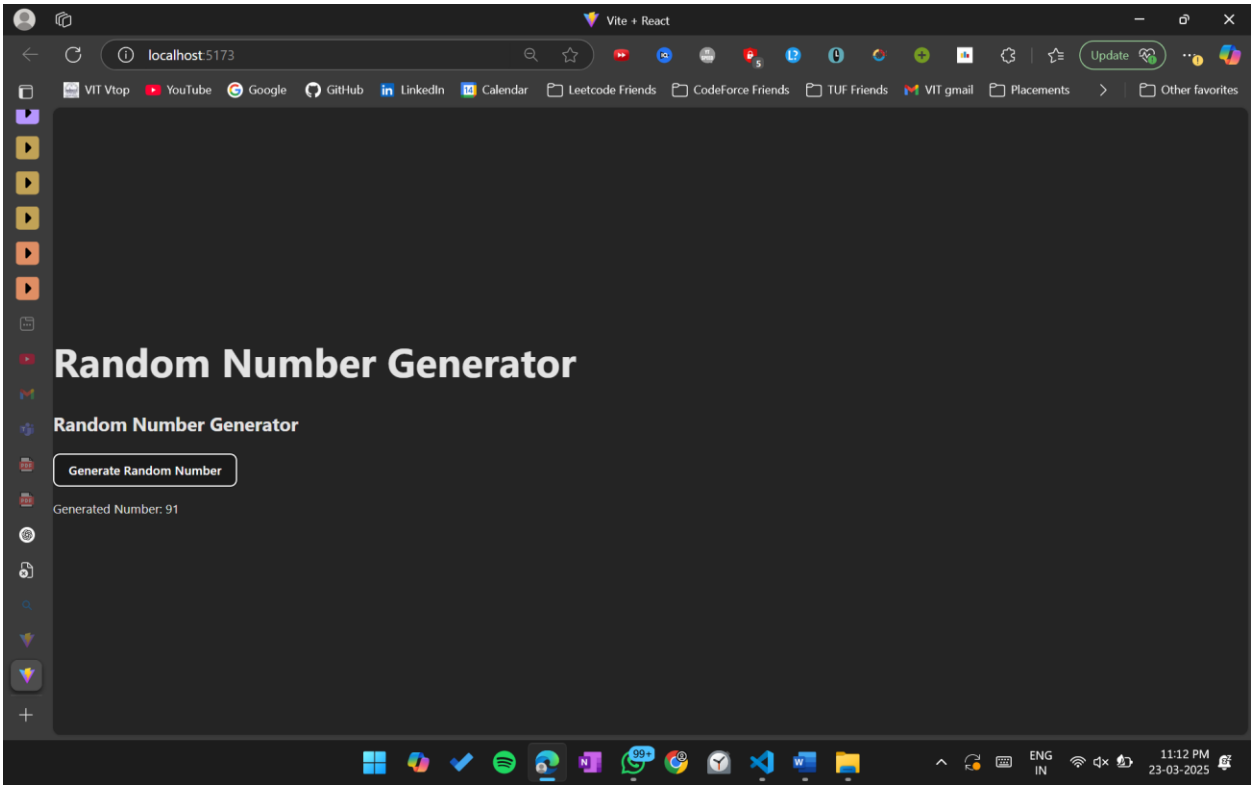
```
    <div>
      <h1>String Manipulator</h1>
      <StringManipulator />
    </div>
  );
}
```



10. Create a button that, when clicked, generates and displays a random number between 1 and 100.

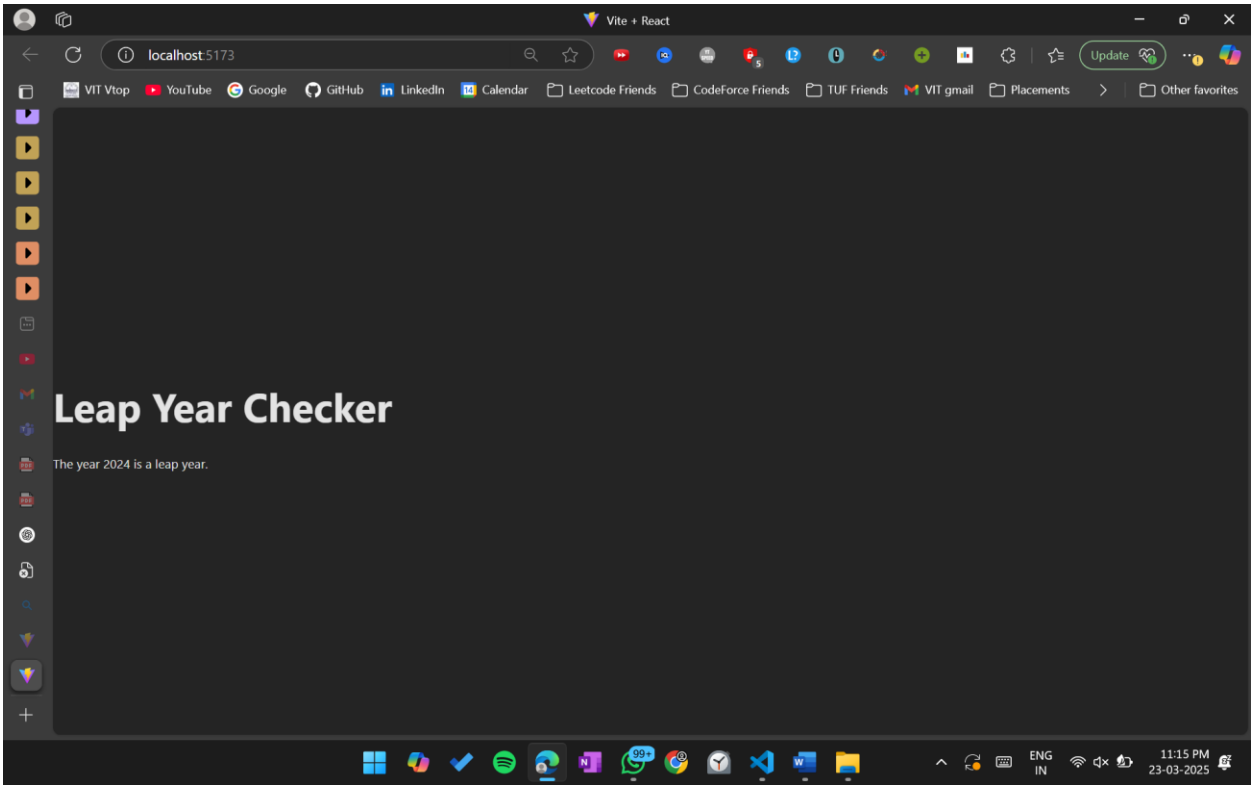
```
import React, { useState } from 'react';
function RandomNumberGenerator() {
 const [randomNumber, setRandomNumber] = useState(null);
 const handleClick = () => {
   const num = Math.floor(Math.random() * 100) + 1;
   setRandomNumber(num);
 };

 return (
   <div>
     <h2>Random Number Generator</h2>
     <button onClick={handleClick}>Generate Random Number</button>
     {randomNumber && <p>Generated Number: {randomNumber}</p>}
   </div>
 );
}
export default function App() {
 return (
```

```
    <div>
      <h1>Random Number Generator</h1>
      <RandomNumberGenerator />
    </div>
  );
}
```



11. Check If a Year is a Leap Year: Take a year (e.g., 2024) as a variable and display whether it is a leap year or not

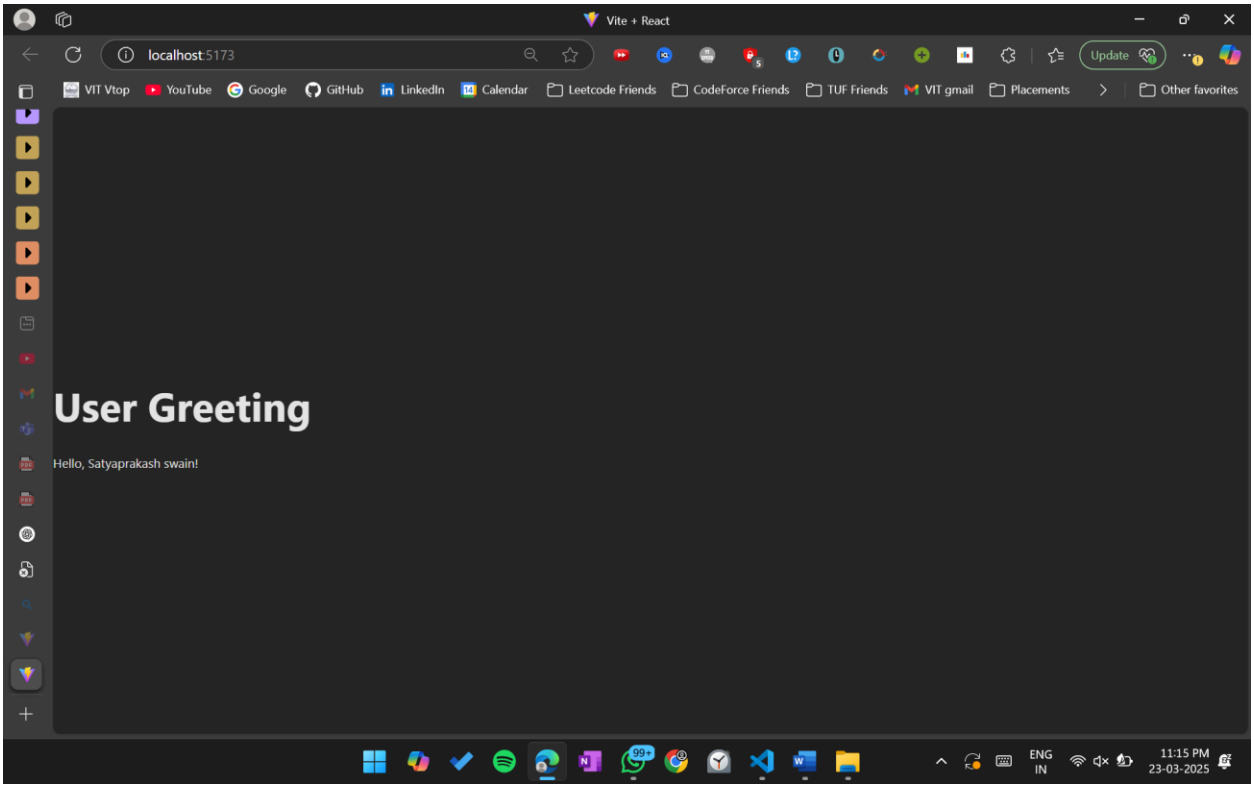
```
import React from 'react';
function LeapYearChecker() {
 const year = 2024;
 const isLeapYear =
   (year % 4 === 0 && year % 100 !== 0) || year % 400 === 0;
 return (
   <p>
     The year {year} is {isLeapYear ? 'a leap year.' : 'not a leap year.'}
   </p>
 );
}
export default function App() {
 return (
   <div>
     <h1>Leap Year Checker</h1>
     <LeapYearChecker />
   </div>
 );
}
```



12. Create a React class component named UserGreeting that takes two props: firstName and
lastName. Inside the render() method, display a greeting message with the full name of the user in the following format:
"Hello, [First Name] [Last Name]!"

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

class UserGreeting extends Component {
 render() {
   const { firstName, lastName } = this.props;
   return <p>Hello, {firstName} {lastName}!</p>;
 }
}

export default function App() {
 return (
   <div>
     <h1>User Greeting</h1>
     <UserGreeting firstName="Satyaprakash" lastName="swain" />
   </div>
```

```
  );
}
```


Vite + React
localhost:5173
Update
VIT Vtop
YouTube
Google
GitHub
LinkedIn
Calendar
Leetcode Friends
CodeForce Friends
TUF Friends
VIT gmail
Placements
Other favorites
User Greeting
Hello, Satyaprakash swain!
ENG
IN
11:15 PM
23-03-2025