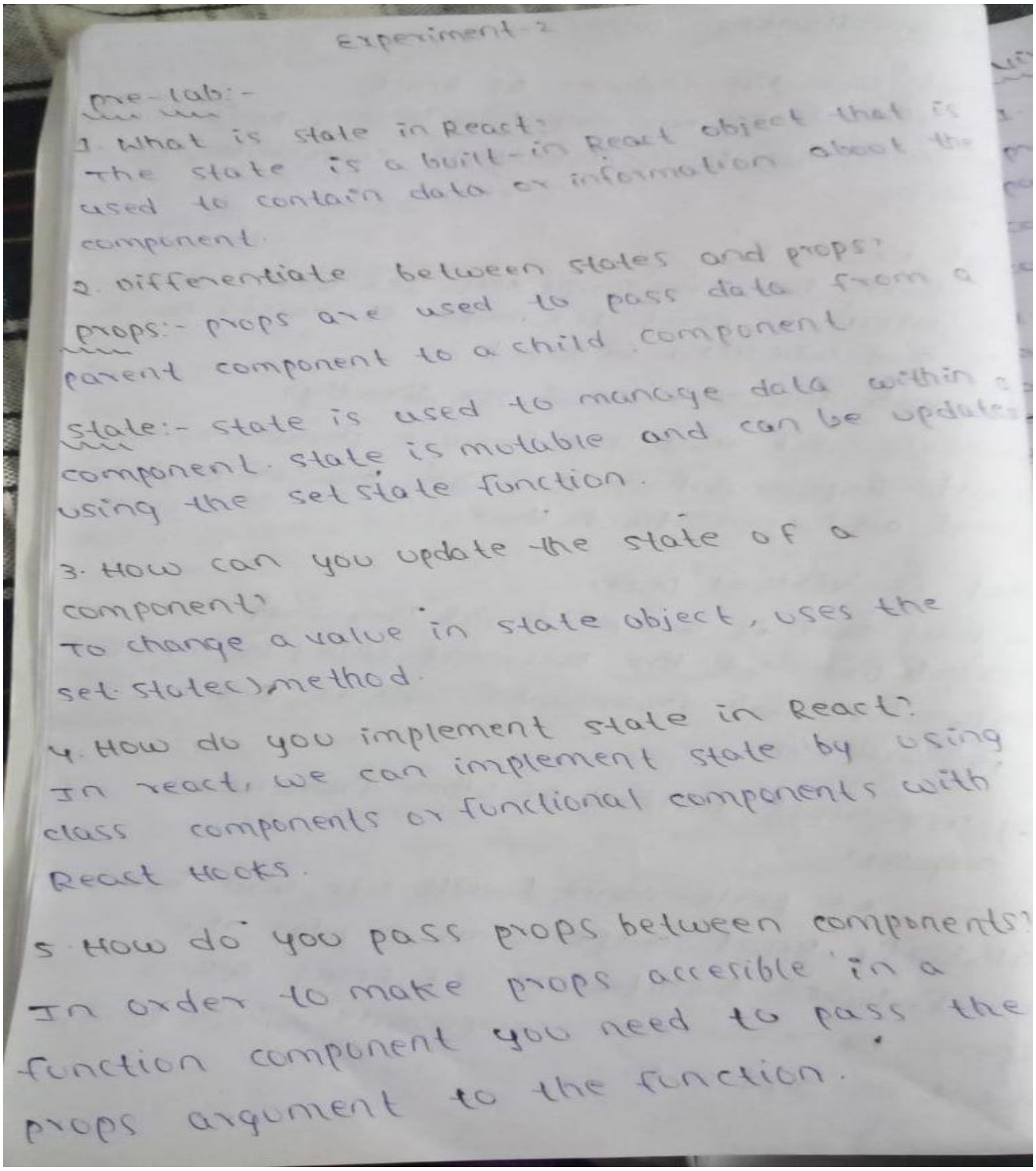
EXPERIMENT – 2 - Working with react props, state

PRE LAB:



Experiment-2

pre-lab:-

1. What is state in React?
The state is a built-in React object that is used to contain data or information about the component.

2. Differentiate between states and props?
props:- props are used to pass data from a parent component to a child component

state:- state is used to manage data within a component. state is mutable and can be updated using the set state function.

3. How can you update the state of a component?
To change a value in state object, uses the set-state()method.

4. How do you implement state in React?
In react, we can implement state by using class components or functional components with React Hooks.

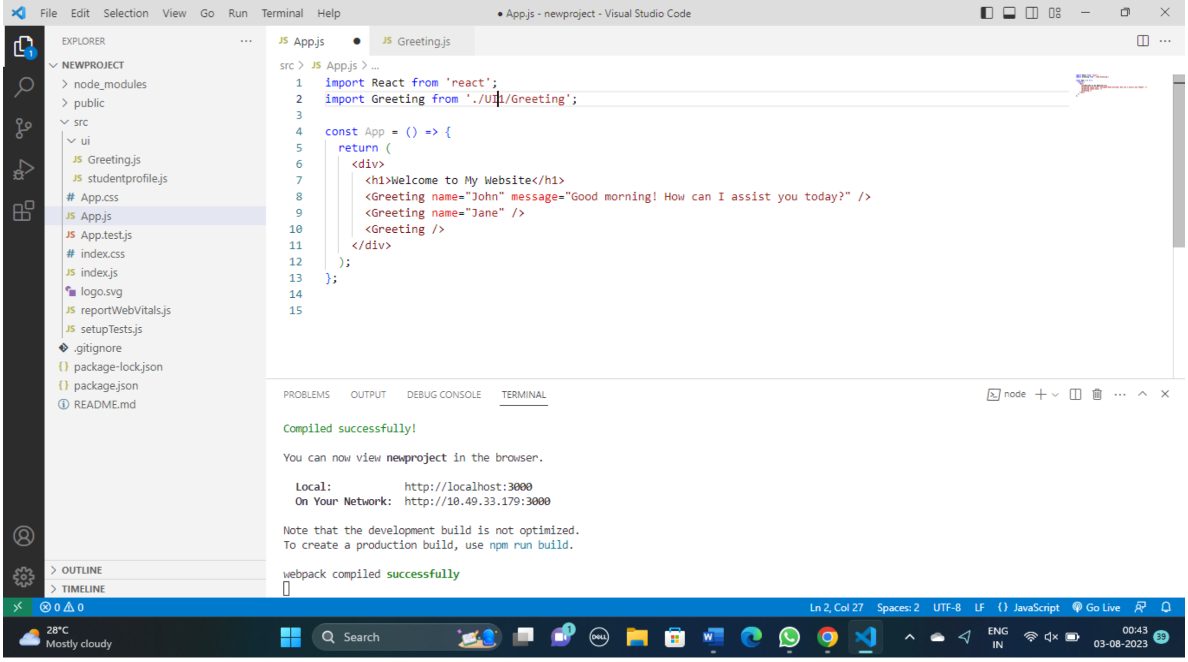
5. How do you pass props between components?
In order to make props accesible in a function component you need to pass the props argument to the function.

In-Lab-1:

EXERCISE:1

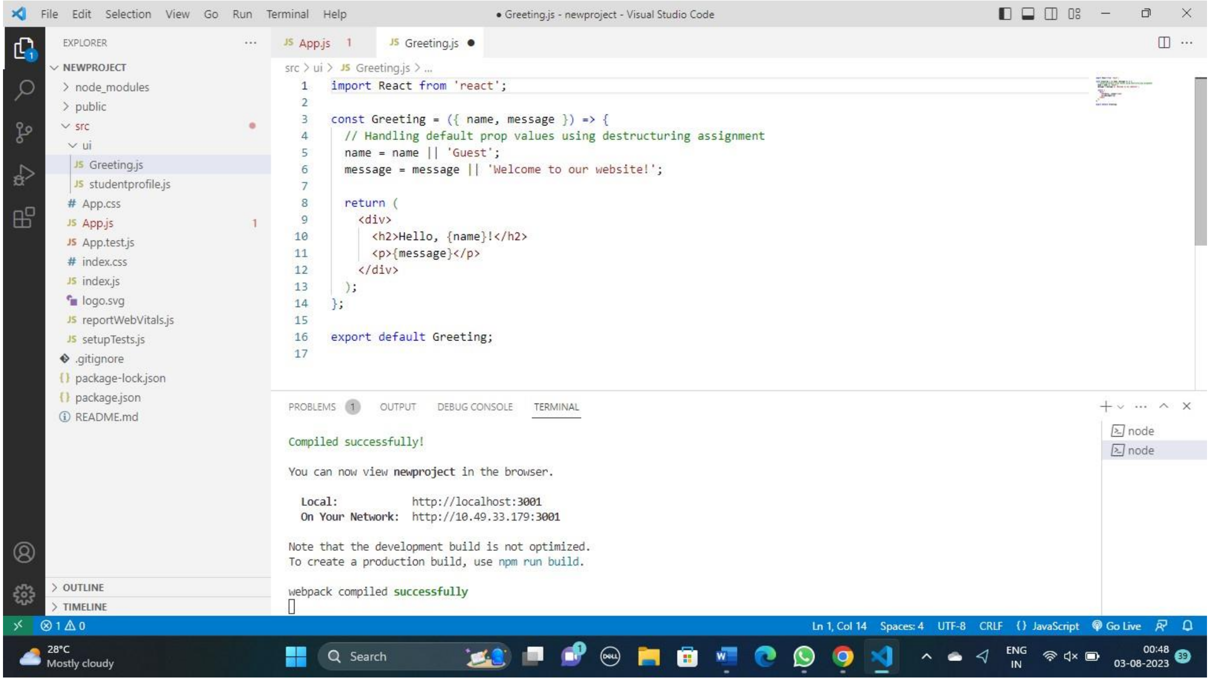
To evaluate the candidate's ability to create functional components that utilize props to render dynamic content. It assesses their knowledge of passing data through props and handling default prop values.

• Procedure/Program



```
import React from 'react';
import Greeting from './UI1/Greeting';

const App = () => {
  return (
    <div>
      <h1>Welcome to My Website</h1>
      <Greeting name="John" message="Good morning! How can I assist you today?" />
      <Greeting name="Jane" />
      <Greeting />
    </div>
  );
};
```

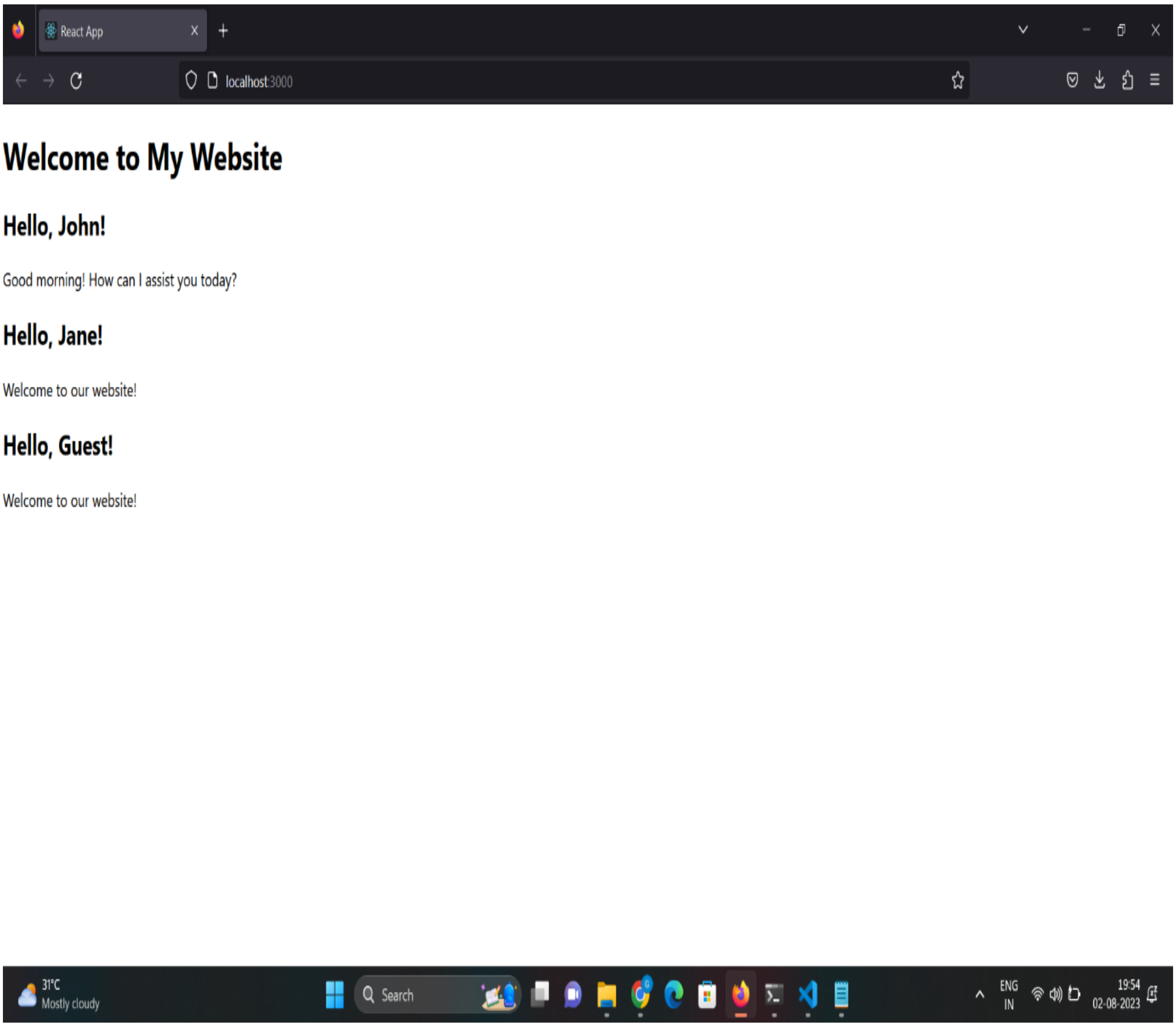
```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3000
  On Your Network:  http://10.49.33.179:3000

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```



```
import React from 'react';

const Greeting = ({ name, message }) => {
  // Handling default prop values using destructuring assignment
  name = name || 'Guest';
  message = message || 'Welcome to our website!';

  return (
    <div>
      <h2>Hello, {name}!</h2>
      <p>{message}</p>
    </div>
  );
};

export default Greeting;
```

```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3001
  On Your Network:  http://10.49.33.179:3001

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
```

OUTPUT:



Welcome to My Website

Hello, John!

Good morning! How can I assist you today?

Hello, Jane!

Welcome to our website!

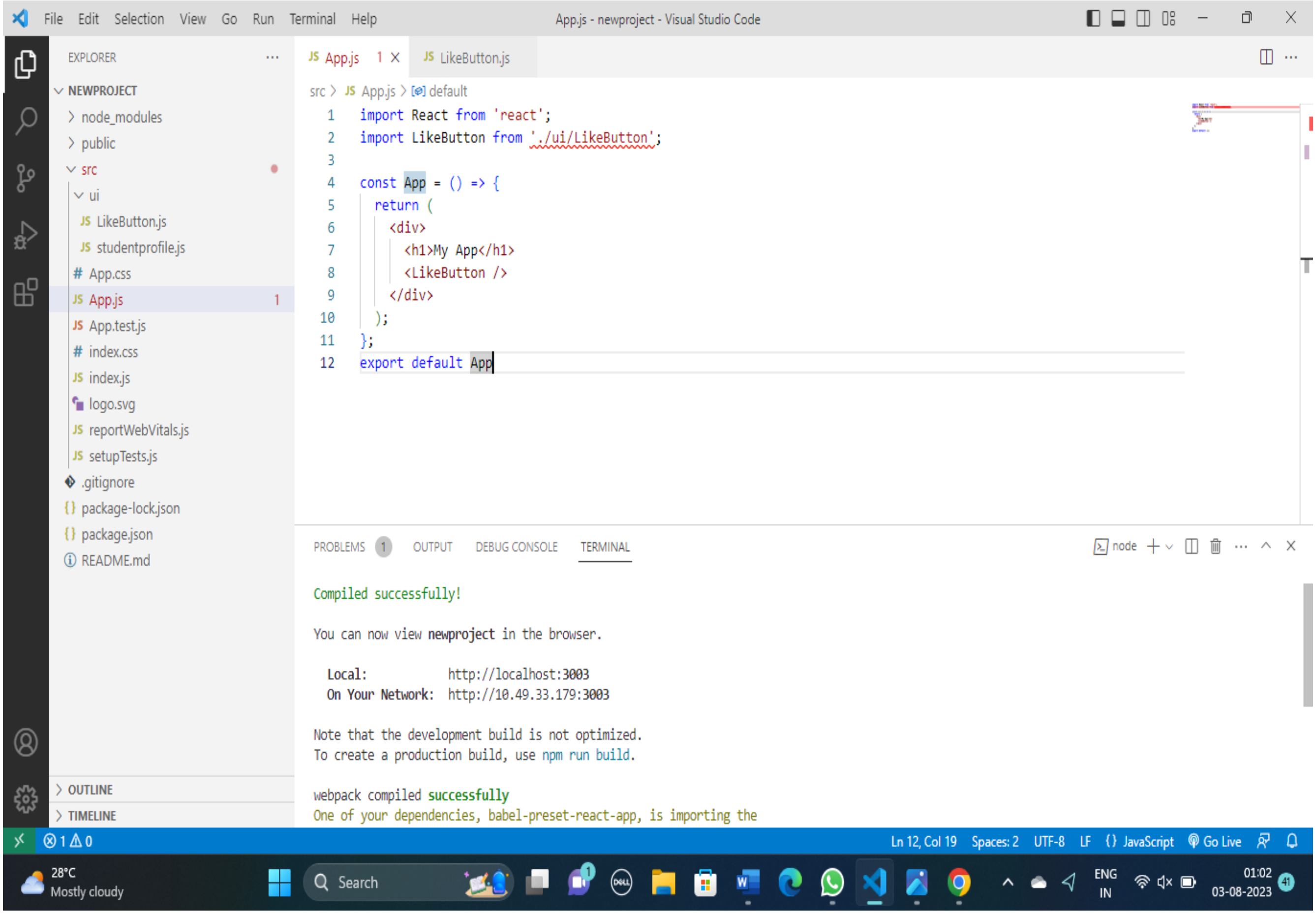
Hello, Guest!

Welcome to our website!

In-Lab-1:

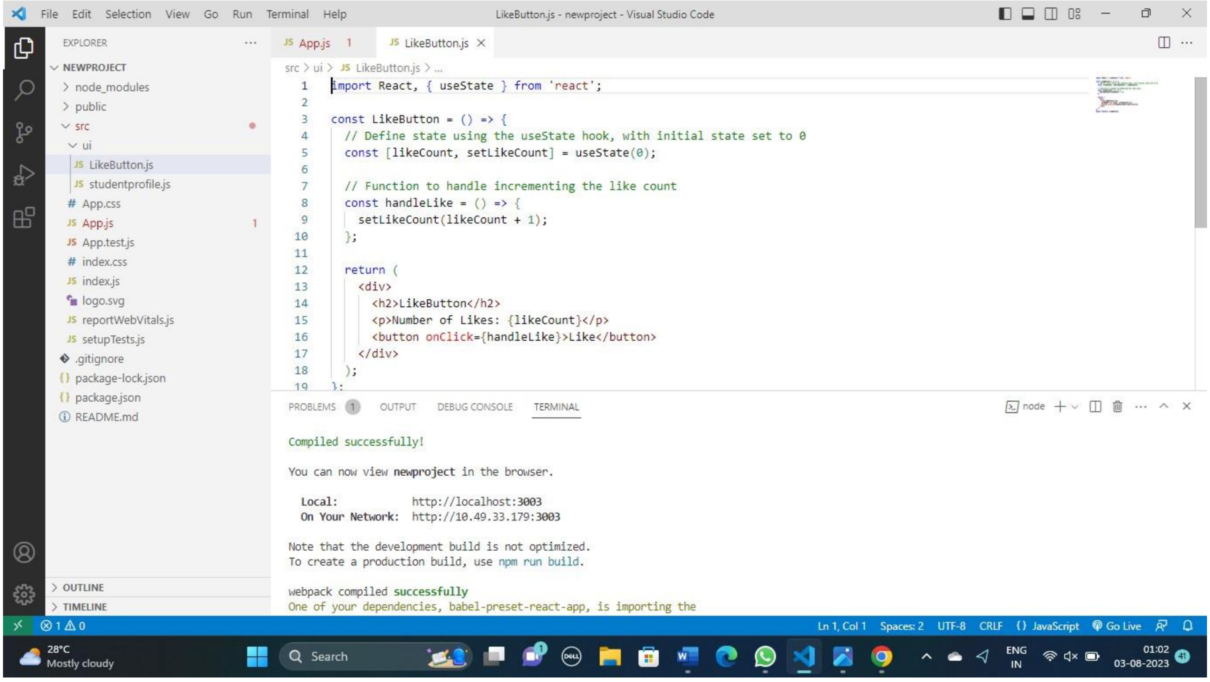
EXERCISE:2

To test the candidate's understanding of state management in React components. It assesses their ability to define and update state using the useState hook. The question also evaluates their skill in manipulating state based on user interactions, such as button clicks, and reflecting the updated state in the component's UI.



```
import React from 'react';
import LikeButton from './ui/LikeButton';

const App = () => {
  return (
    <div>
      <h1>My App</h1>
      <LikeButton />
    </div>
  );
};
export default App
```

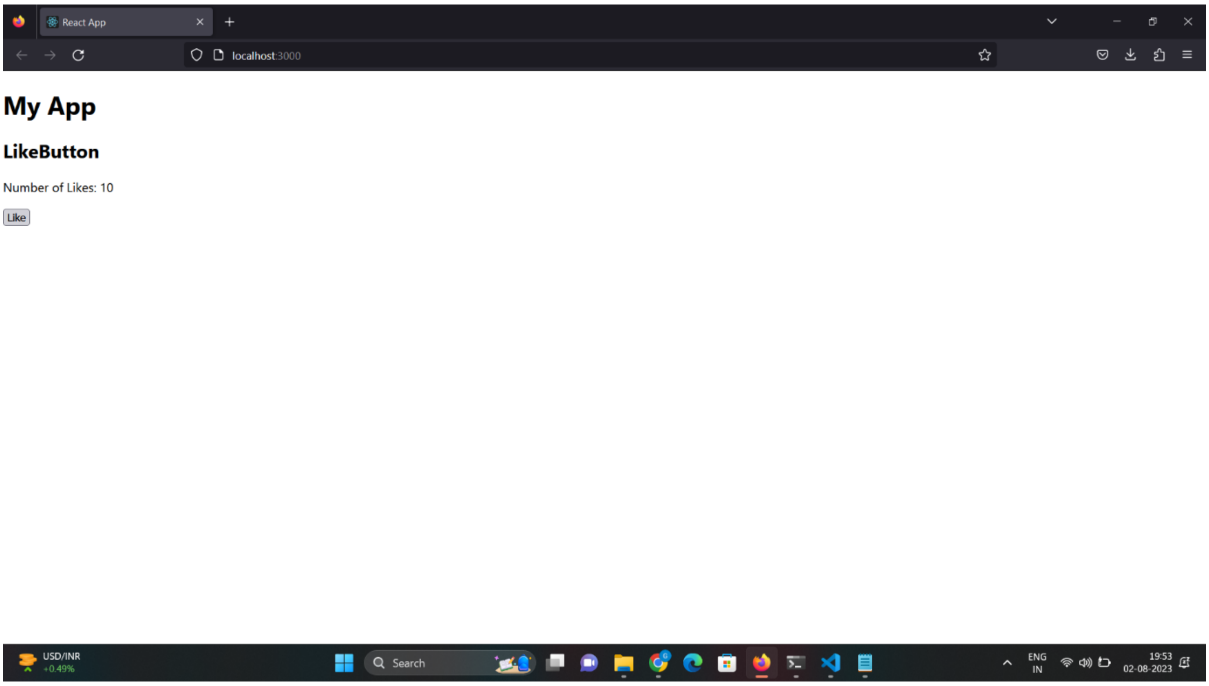
```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3003
  On Your Network:  http://10.49.33.179:3003

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
One of your dependencies, babel-preset-react-app, is importing the
```



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

const LikeButton = () => {
  // Define state using the useState hook, with initial state set to 0
  const [likeCount, setLikeCount] = useState(0);

  // Function to handle incrementing the like count
  const handleLike = () => {
    setLikeCount(likeCount + 1);
  };

  return (
    <div>
      <h2>LikeButton</h2>
      <p>Number of Likes: {likeCount}</p>
      <button onClick={handleLike}>Like</button>
    </div>
  );
};
```

```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3003
  On Your Network:  http://10.49.33.179:3003

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
One of your dependencies, babel-preset-react-app, is importing the
```

OUTPUT:



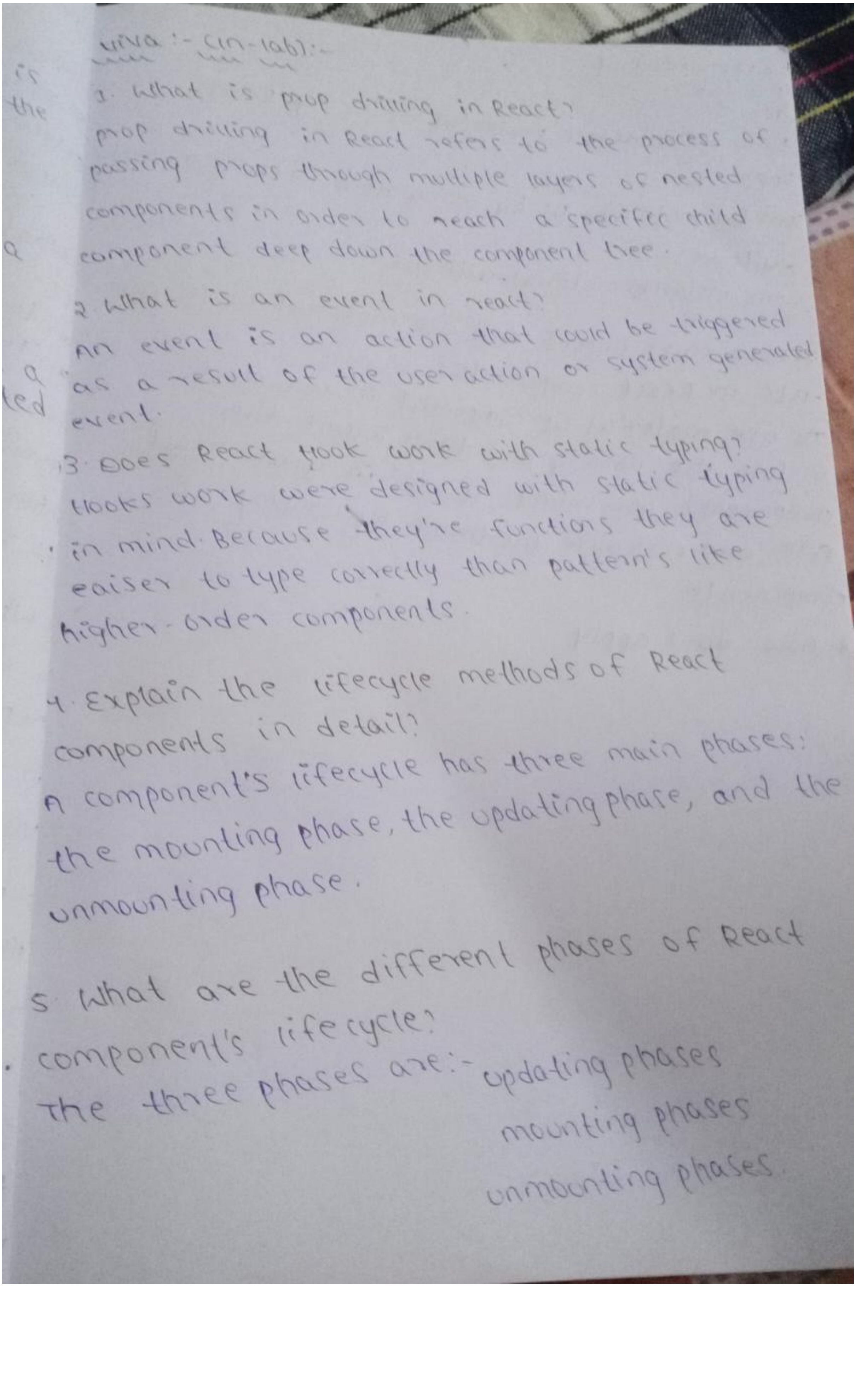
My App

LikeButton

Number of Likes: 10

Like

Sample VIVA-VOCE Questions (In-Lab)



viva :- (in-lab):-

1. What is prop drilling in React?

prop drilling in React refers to the process of passing props through multiple layers of nested components in order to reach a specifec child component deep down the component tree.

2 What is an event in react?

An event is an action that could be triggered as a result of the user action or system generated event.

3. Does React hook work with static typing?

Hooks work were designed with static typing in mind. Because they're functions they are eaiser to type correctly than pattern's like higher-order components.

4. Explain the lifecycle methods of React components in detail?

A component's lifecycle has three main phases: the mounting phase, the updating phase, and the unmounting phase.

5 What are the different phases of React component's lifecycle?

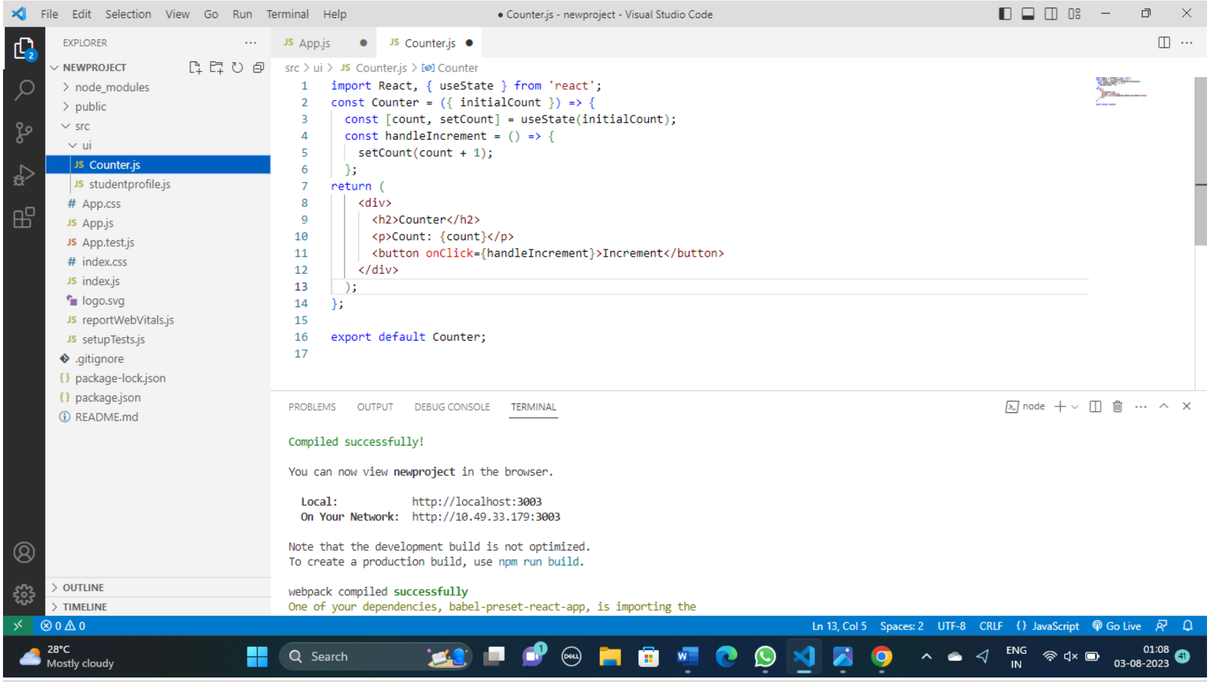
The three phases are:- updating phases
mounting phases
unmounting phases.

POST LAB:

QUESTION:1

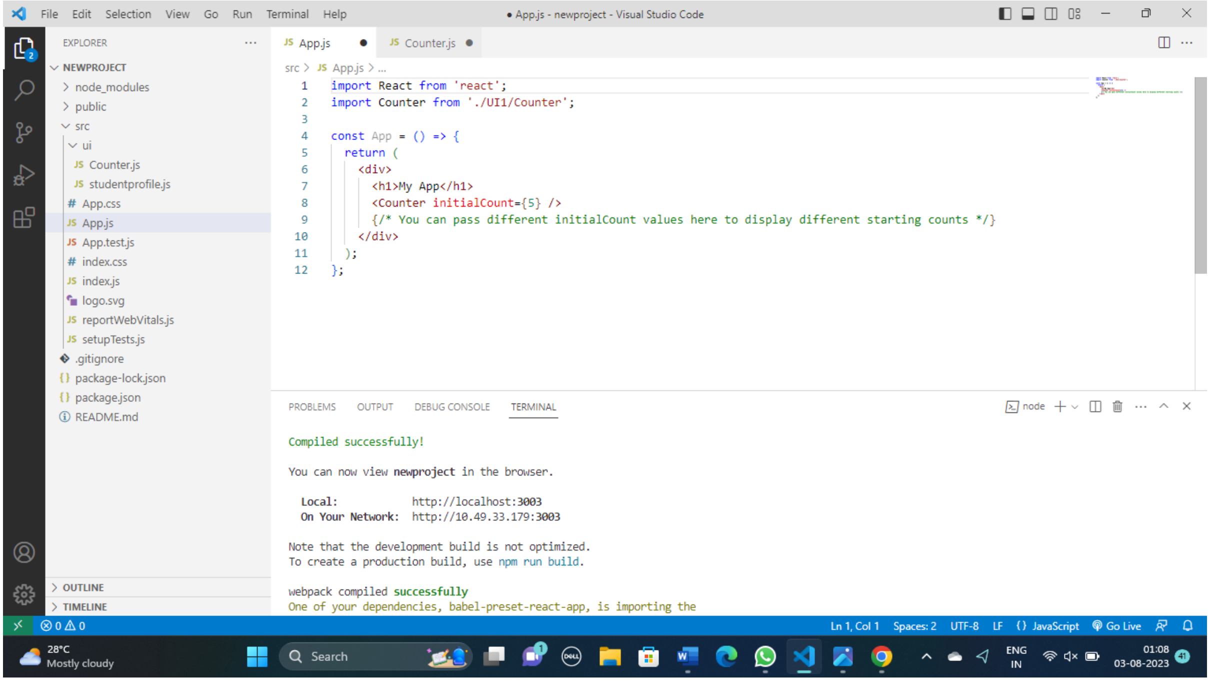
Create a "Counter" component that displays a count value and a button to increment the count by 1 when clicked. The initial count value should be passed as a prop.

Procedure/Program:



```
import React, { useState } from 'react';
const Counter = ({ initialCount }) => {
  const [count, setCount] = useState(initialCount);
  const handleIncrement = () => {
    setCount(count + 1);
  };
  return (
    <div>
      <h2>Counter</h2>
      <p>Count: {count}</p>
      <button onClick={handleIncrement}>Increment</button>
    </div>
  );
};

export default Counter;
```

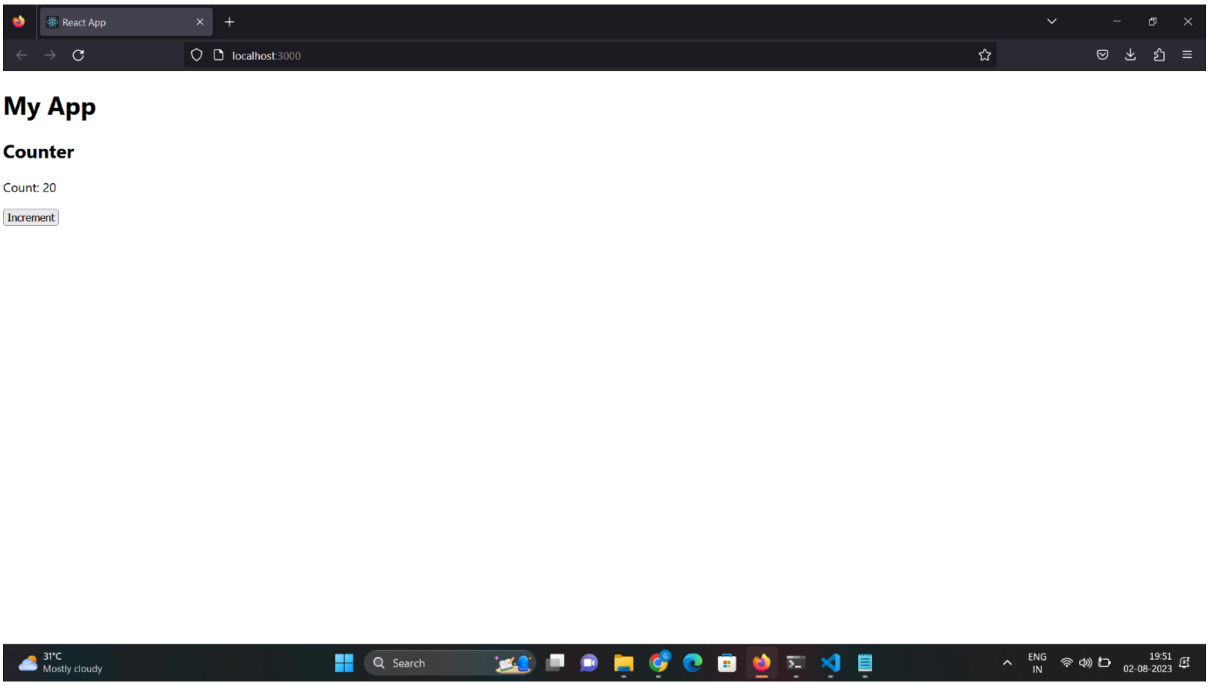
```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3003
  On Your Network:  http://10.49.33.179:3003

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
One of your dependencies, babel-preset-react-app, is importing the
```



```
import React from 'react';
import Counter from './UI1/Counter';

const App = () => {
  return (
    <div>
      <h1>My App</h1>
      <Counter initialCount={5} />
      {/* You can pass different initialCount values here to display different starting counts */}
    </div>
  );
};
```

```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3003
  On Your Network:  http://10.49.33.179:3003

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
One of your dependencies, babel-preset-react-app, is importing the
```

OUTPUT:



My App

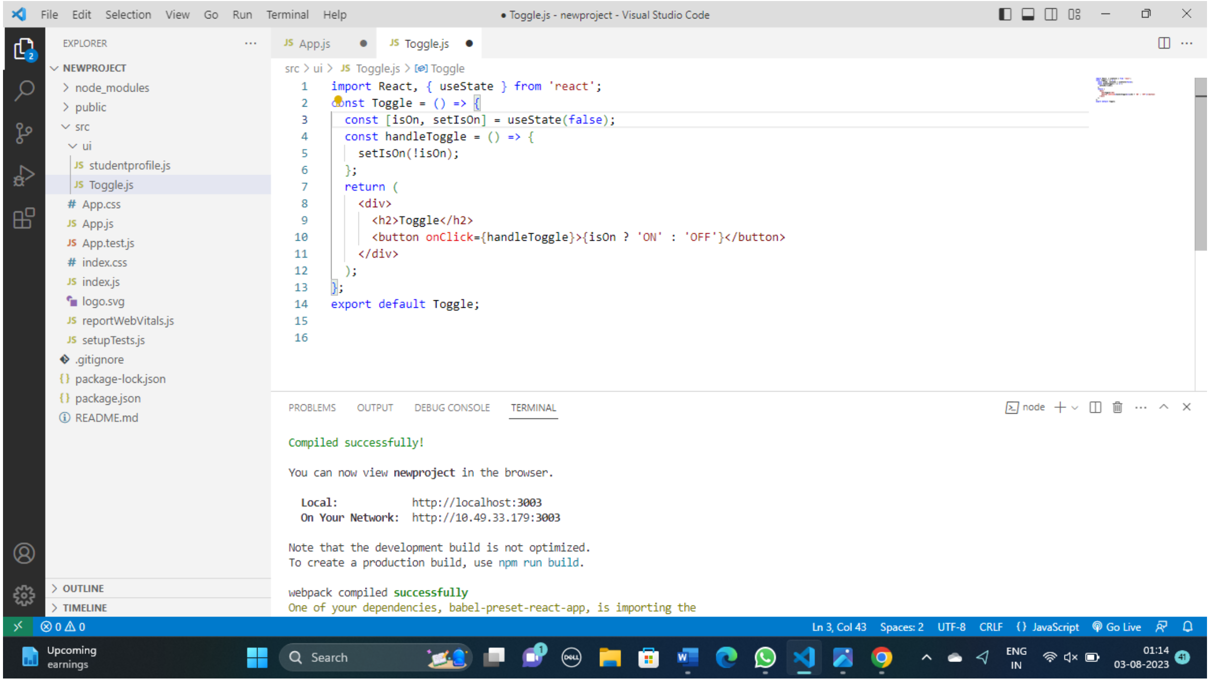
Counter

Count: 20

QUESTION:2

Create a "Toggle" component that displays a button. When the button is clicked, it toggles the state between "ON" and "OFF" and updates the button text accordingly.

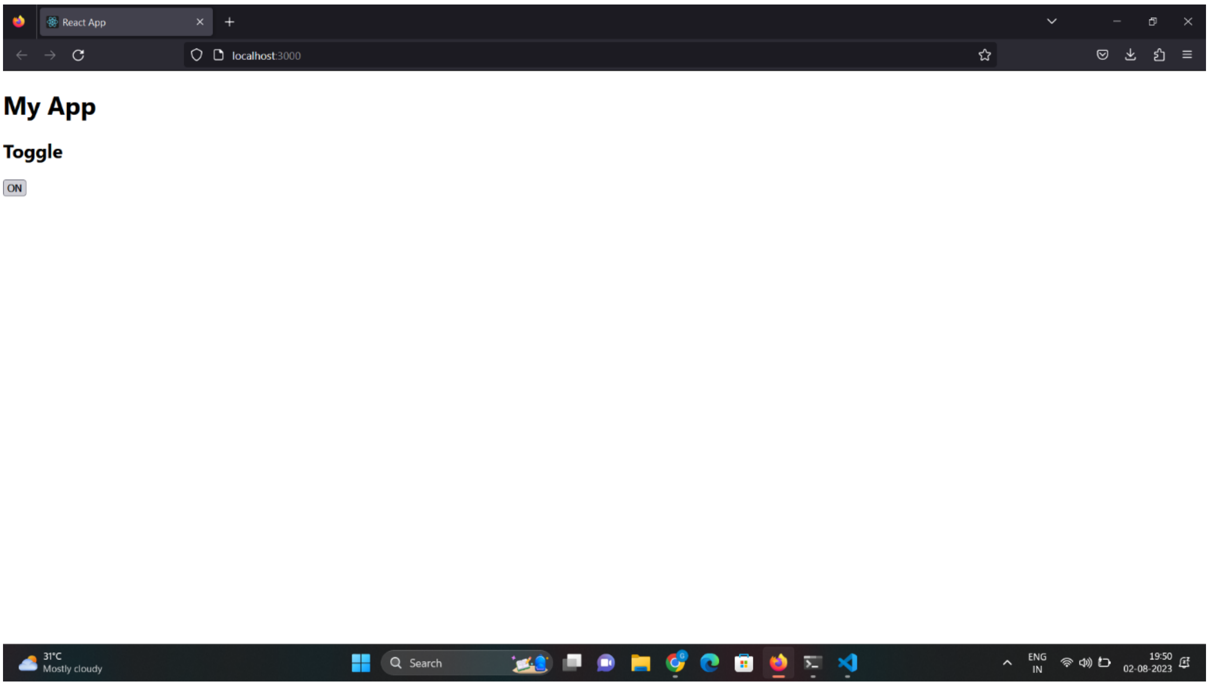
sssProcedure/Program:



```javascript
import React, { useState } from 'react';
const Toggle = () => {
  const [isOn, setIsOn] = useState(false);
  const handleToggle = () => {
    setIsOn(!isOn);
  };
  return (
    <div>
      <h2>Toggle</h2>
      <button onClick={handleToggle}>{isOn ? 'ON' : 'OFF'}</button>
    </div>
  );
};
export default Toggle;
```

```
Compiled successfully!

You can now view newproject in the browser.

  Local:            http://localhost:3003
  On Your Network:  http://10.49.33.179:3003

Note that the development build is not optimized.
To create a production build, use npm run build.

webpack compiled successfully
One of your dependencies, babel-preset-react-app, is importing the
```

OUTPUT



My App

Toggle

ON