REACT JAVASCRIPT

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FA21-BSE-036

Installation of Node JS

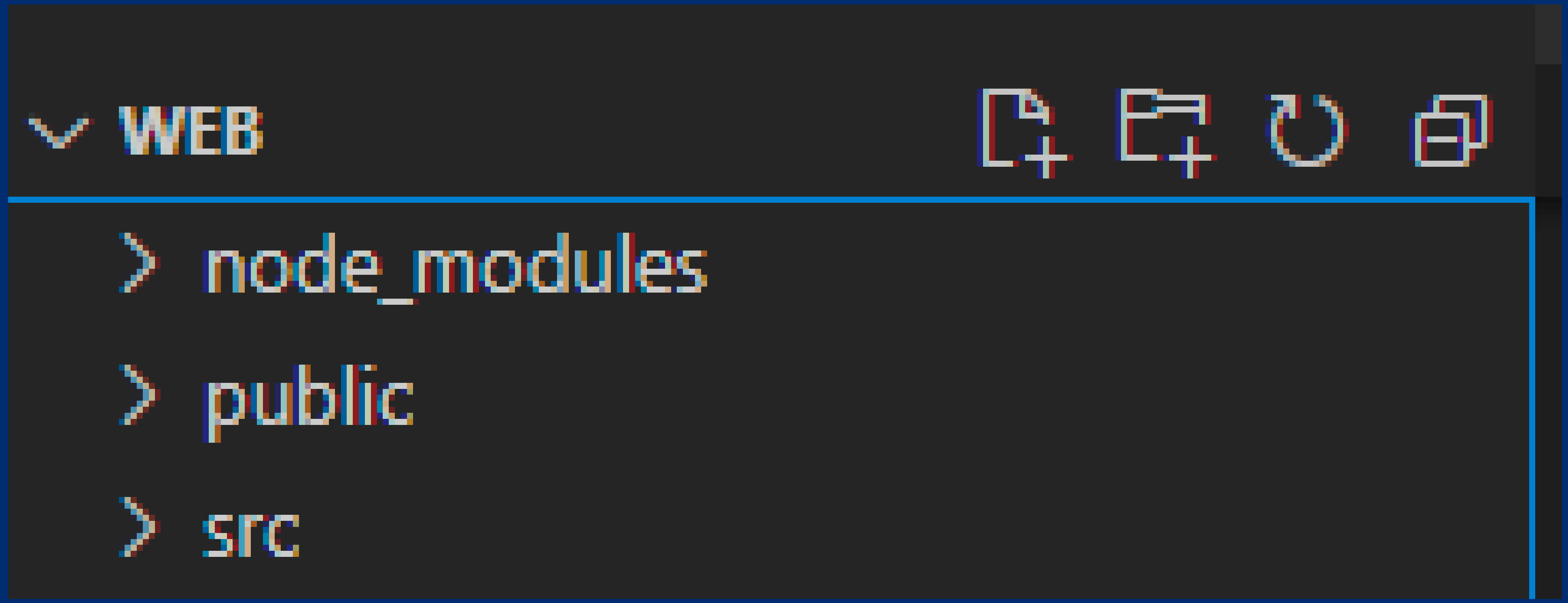
1) Download Node JS
2) Open cmd and enter the command

   ```
   npx create-react-app Projectname
   ```

npx stands for node package installer

create-react-app is a tool provided by Facebook.

In React javaScript , the folder structure might look like this :



```
WEB
  node_modules
  public
  src
```

> WEB is the project name.

> 'node_module' contain all the third-party libraries and dependies installed through npm

> 'public' contain all the public assests of react JS such as index.html

> 'src' contains the source code of the application.

1) components

2) Pages

3) Styles

4) utils

5) 'App.JS' it is the main component that renders all other components

6) 'index.JS' it is the entry point that renders the 'App' component

Why we use React JS?

React JS is a popular JavaScript(JS) library used for building user interfaces (UI)) in web application. The reason why we use React JS because its provide security means it is sued to build secure web application.

What is the master file in React JS?

In React JS, there is no specific file called the master file. However the 'app.js' in the 'src' folder of the React JS is often considered the master file. Because it is the main component that renders all the other components and it also provides the structure and behaviour for the application.

what is component?

A component is a reusable piece of code that defines how a part of UI should be renders and how it should behave.

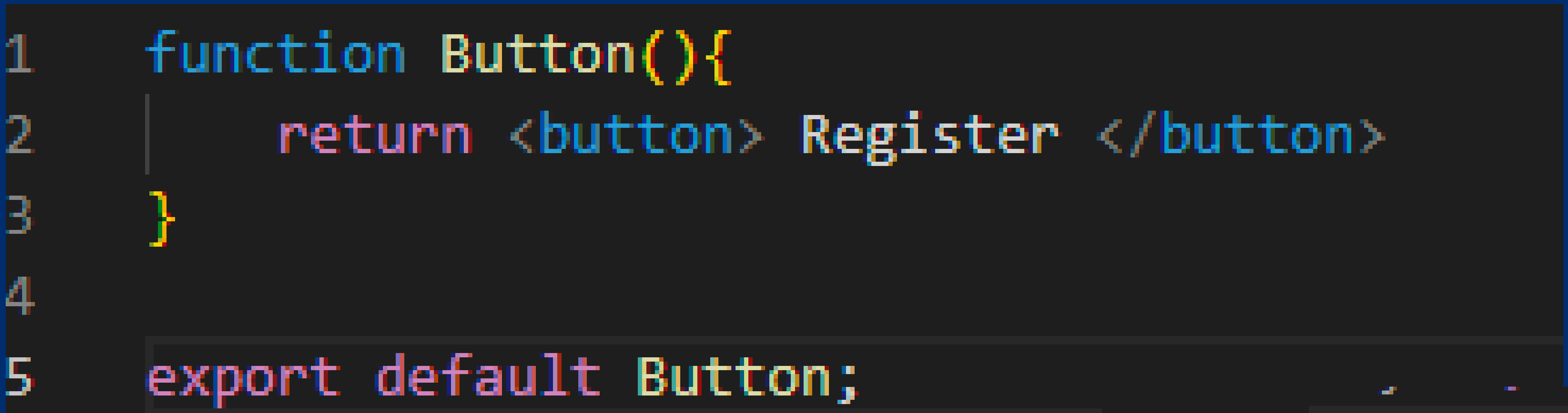
We can create a component by three methods:

1) Functional component

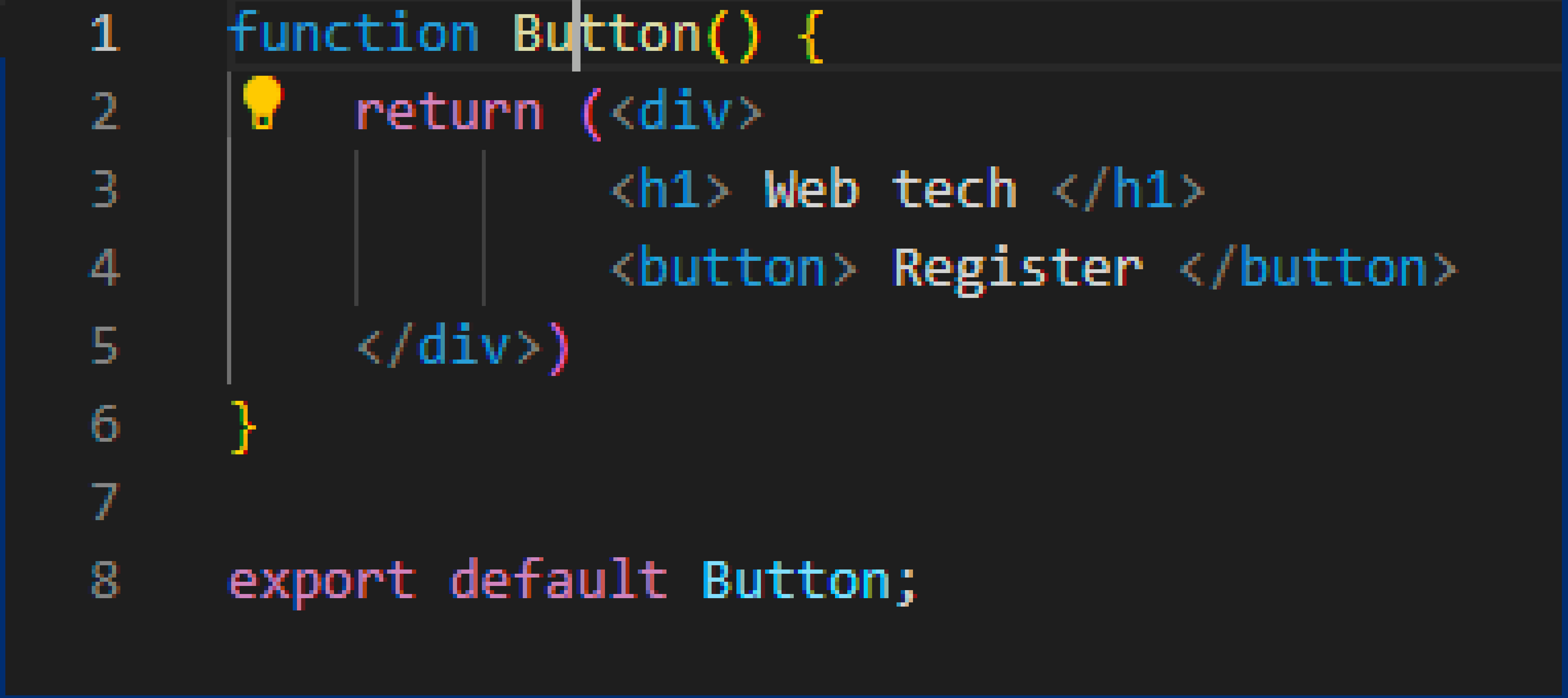
2) Arrow-based component (it is the most powerful)

3) Class-based component (nowadays most of the developers use this method of creating a component)

Syntax of Functional component

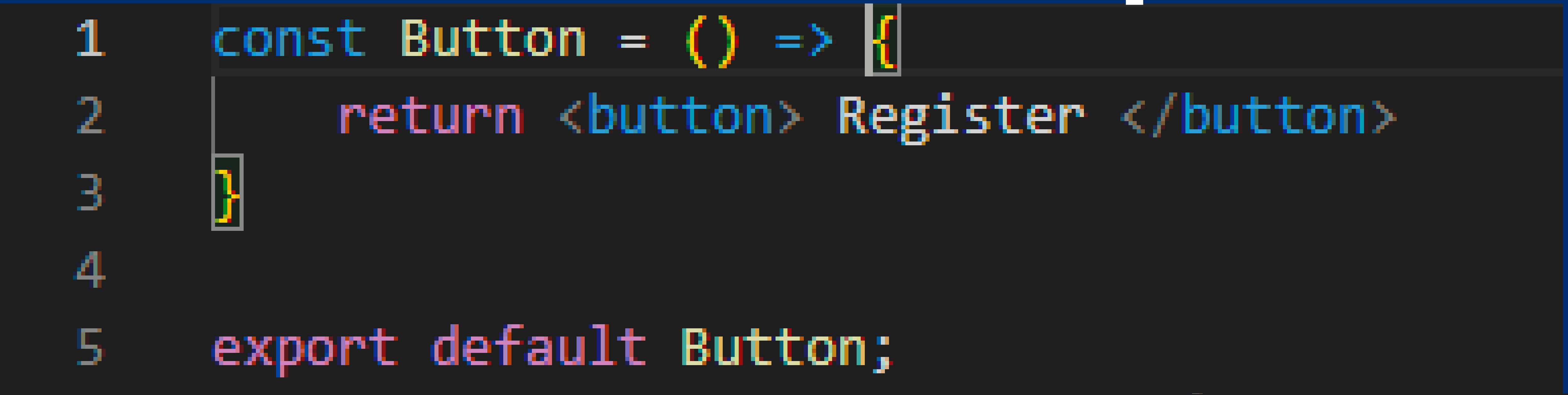


```
function Button(){
    return <button> Register </button>
}

export default Button;
```

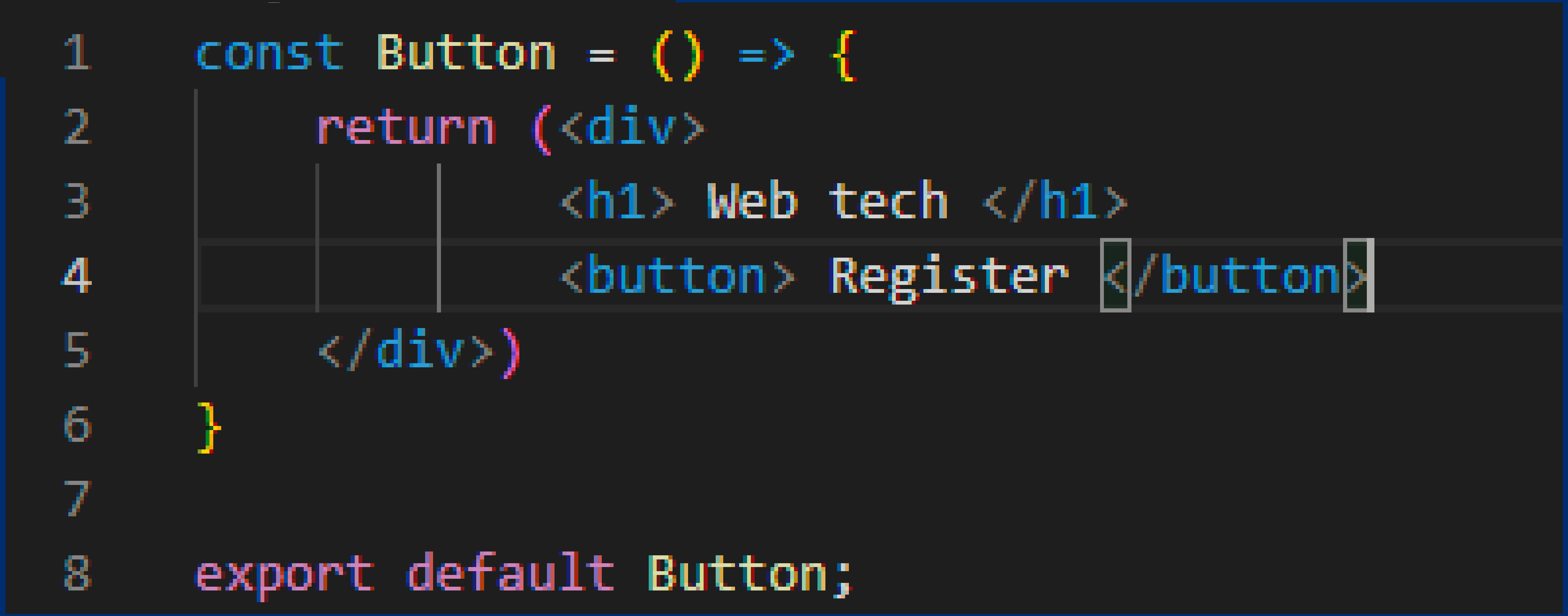


```
function Button() {
  return (<div>
      <h1> Web tech </h1>
      <button> Register </button>
  </div>)
}

export default Button;
```

Syntax of Arrow-based component

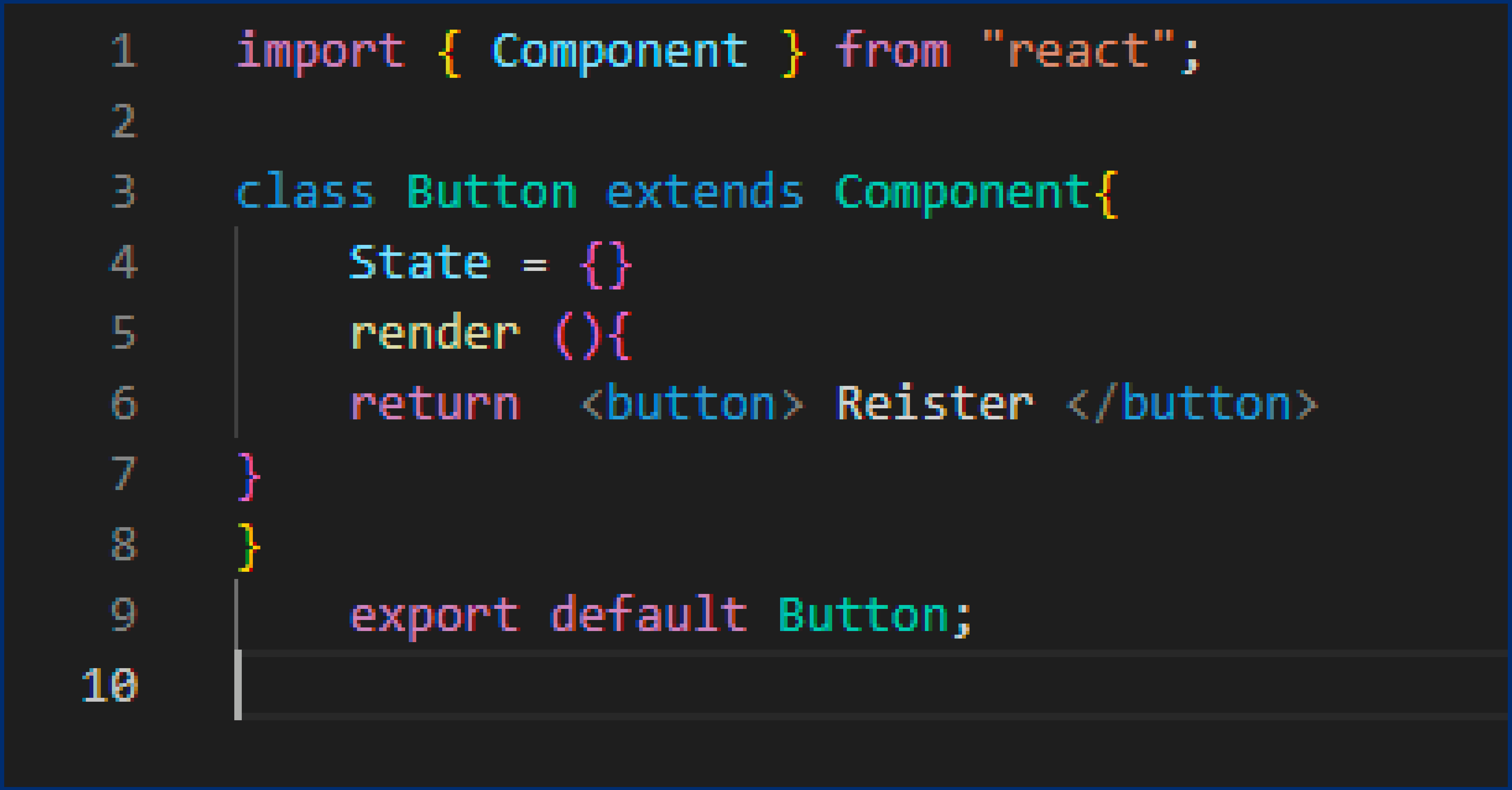


```jsx
const Button = () => {
    return <button> Register </button>
}

export default Button;
```



```jsx
const Button = () => {
    return (<div>
            <h1> Web tech </h1>
            <button> Register </button>
    </div>)
}

export default Button;
```

Syntax of Class-based component



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

class Button extends Component{
    State = {}
    render (){
    return  <button> Reister </button>
}
}
    export default Button;

```

Render :

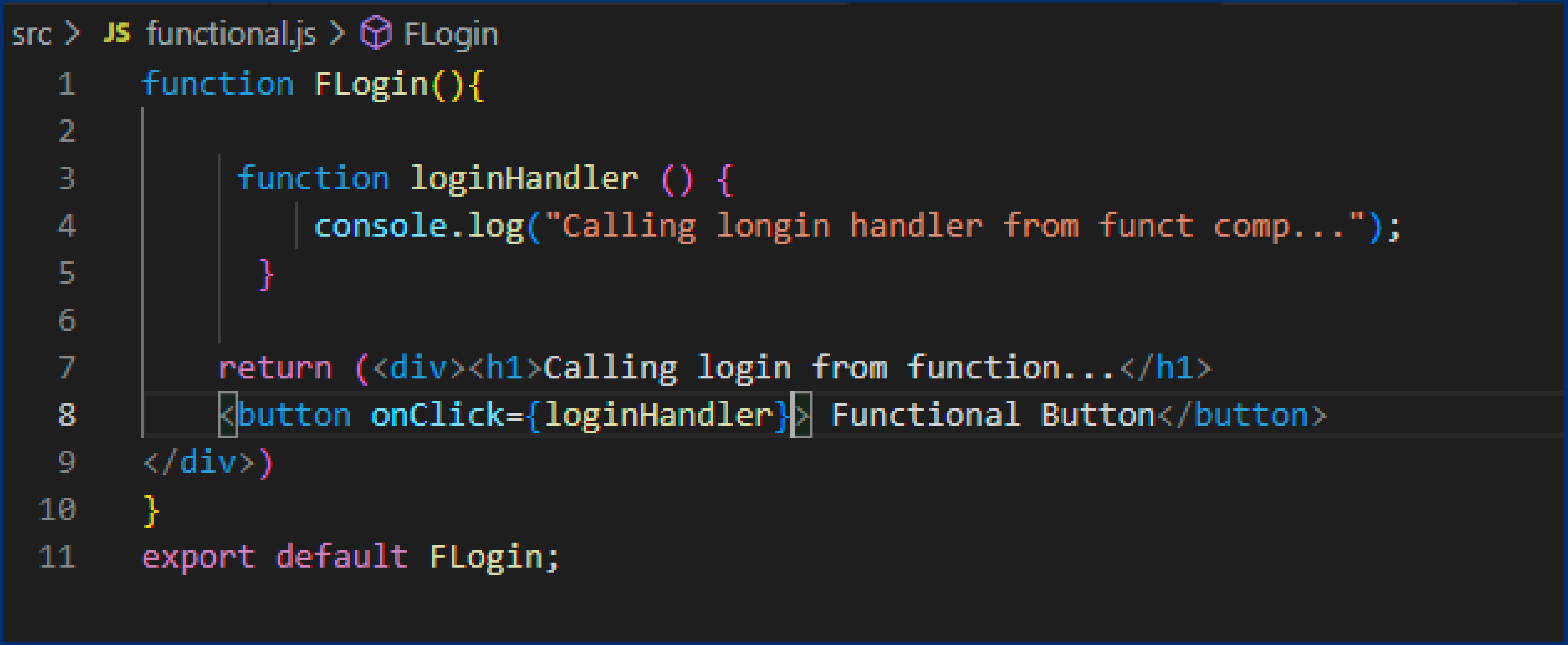
In React , render is a method that is used to desrcibe what the UI should look like based on the current state of the component.

Event :

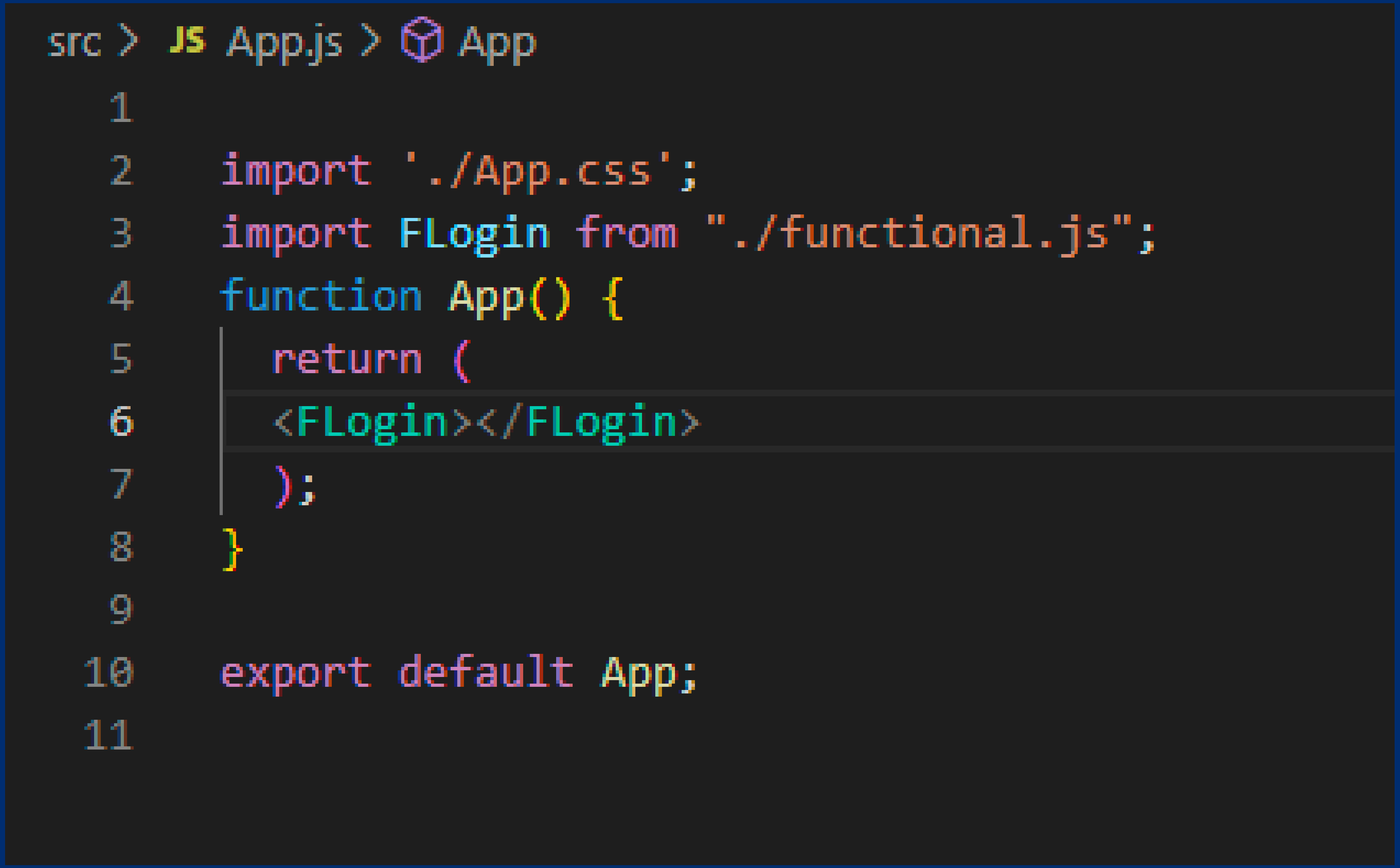
Any occurance on which function is performed.

How to write a function and call a function?

In Functional Component

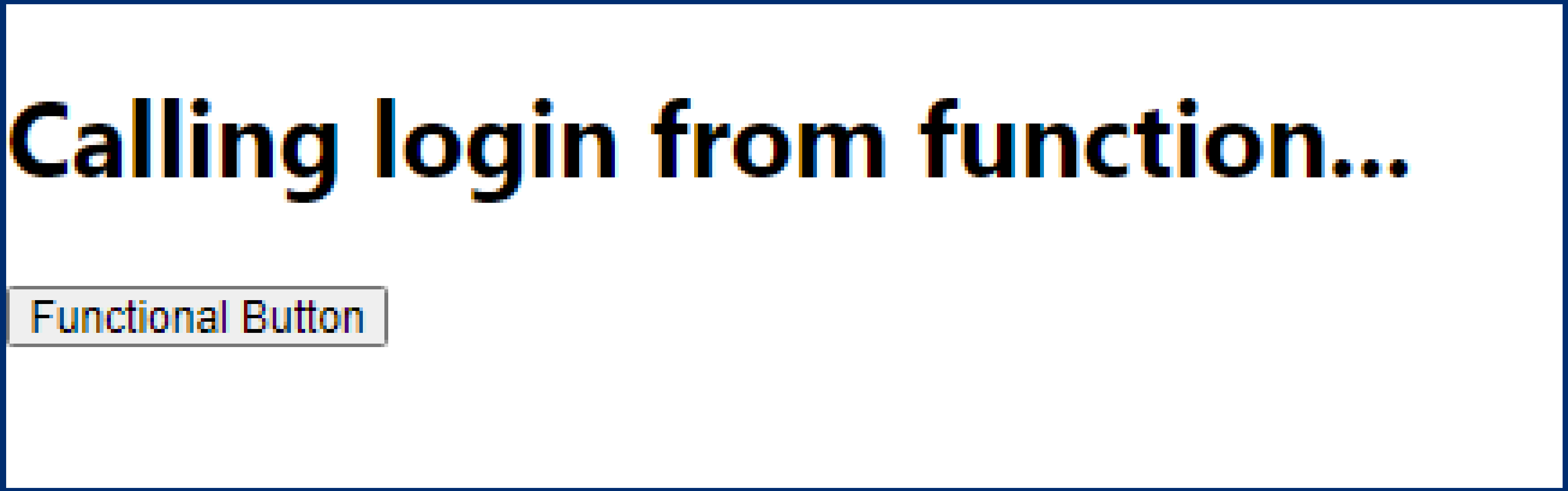


```
function FLogin(){

     function loginHandler () {
         console.log("Calling longin handler from funct comp...");
      }

    return (<div><h1>Calling login from function...</h1>
    <button onClick={loginHandler}> Functional Button</button>
</div>)
}
export default FLogin;
```



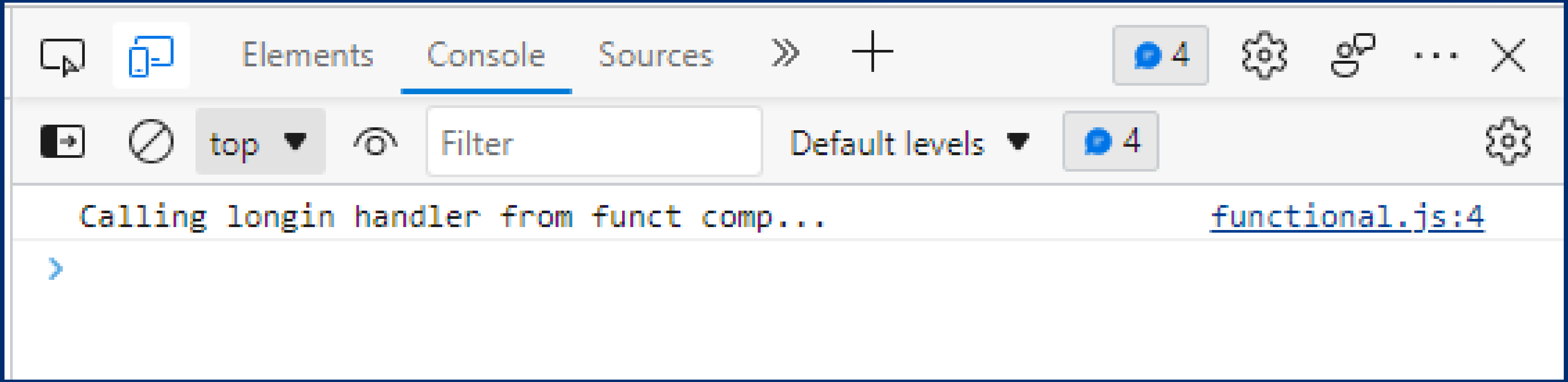
```

import './App.css';
import FLogin from "./functional.js";
function App() {
  return (
  <FLogin></FLogin>
  );
}

export default App;

```

here is h1 tag and also a button. But we have do event calling on button so if we click the button the method will call. OnClick is the event.



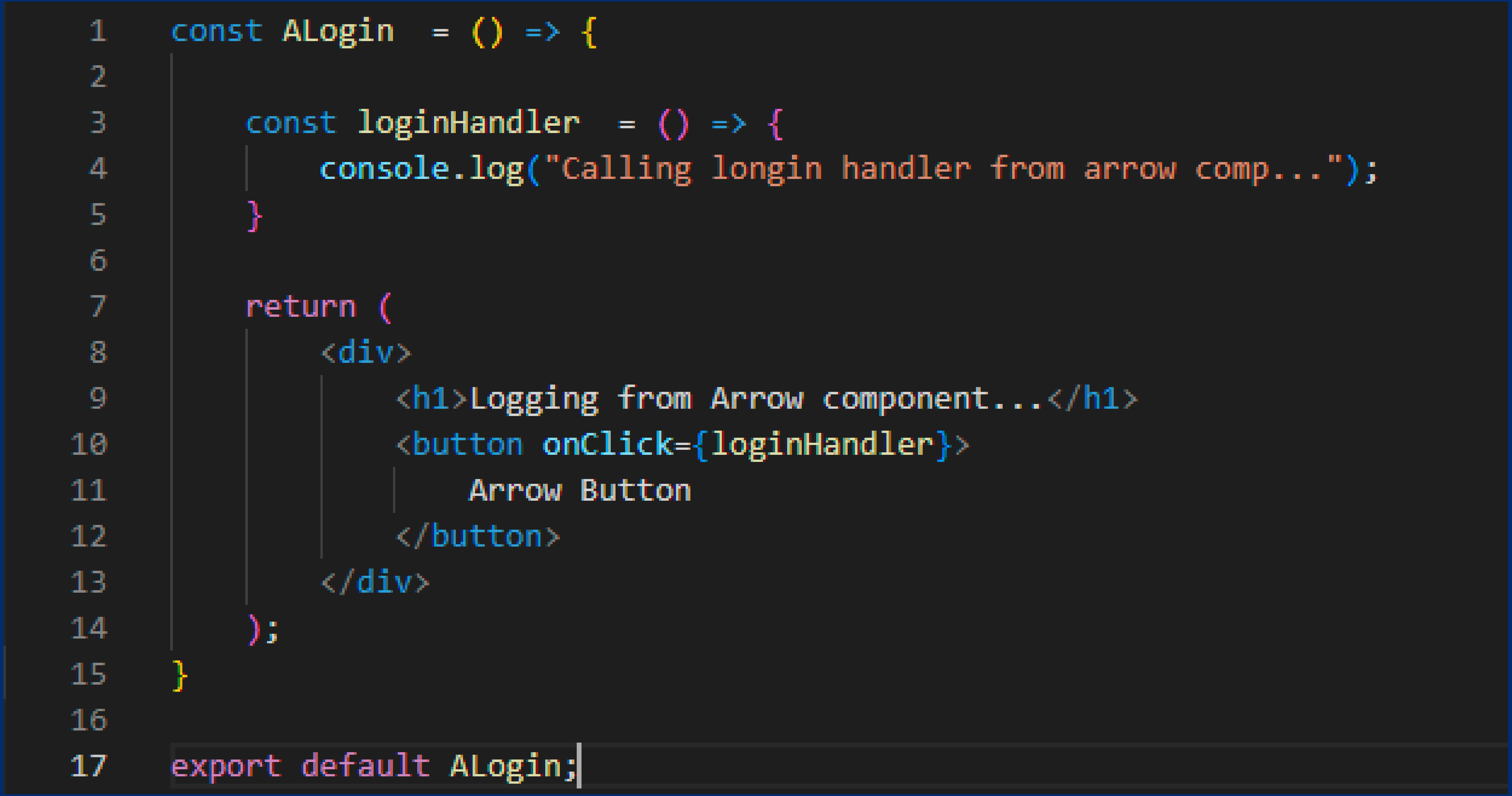
Calling login from function...

click on right and o to the inspect there click on console and then click on Button so the event calling will be done.

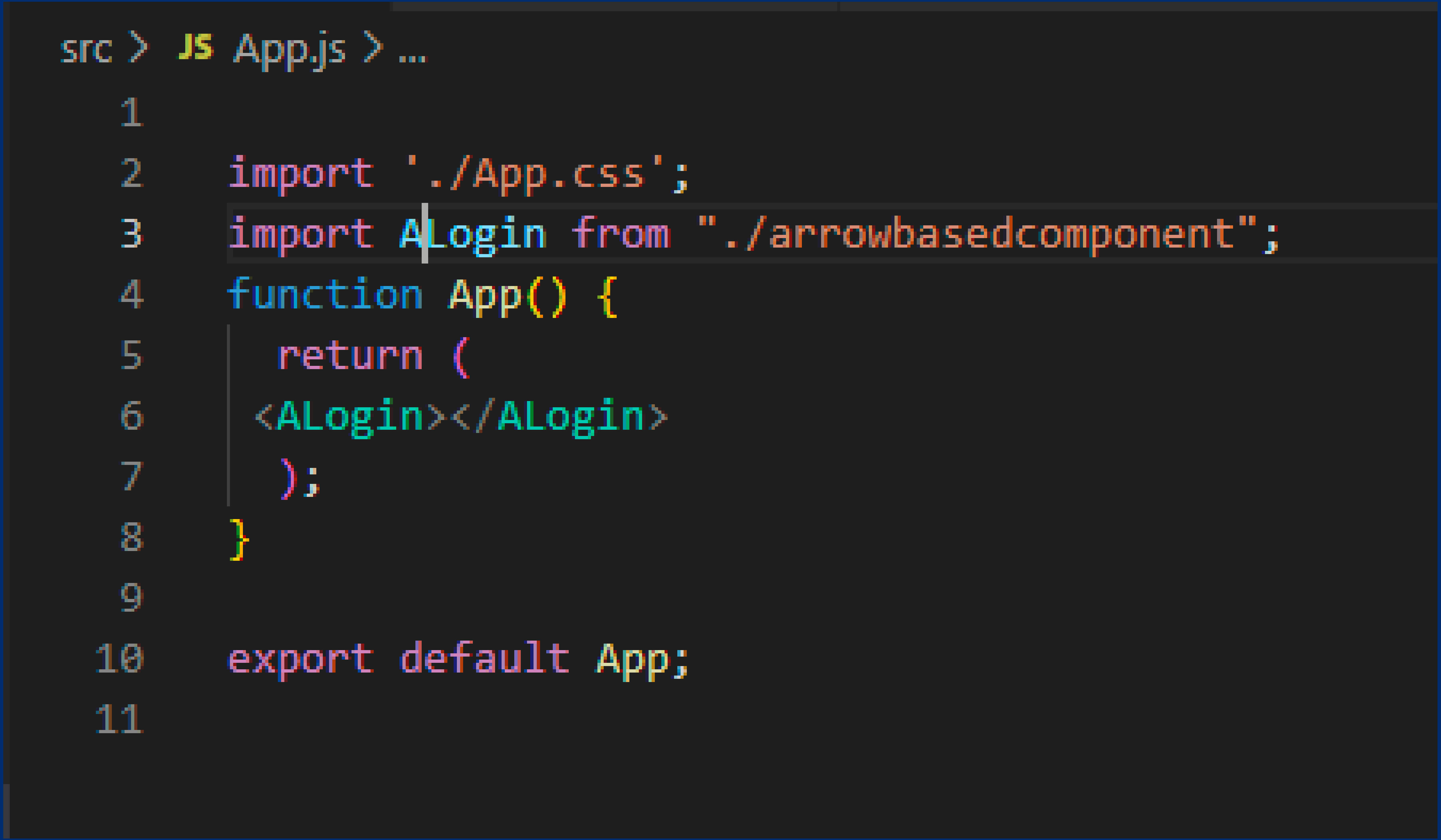


```
Calling longin handler from funct comp...                functional.js:4
```

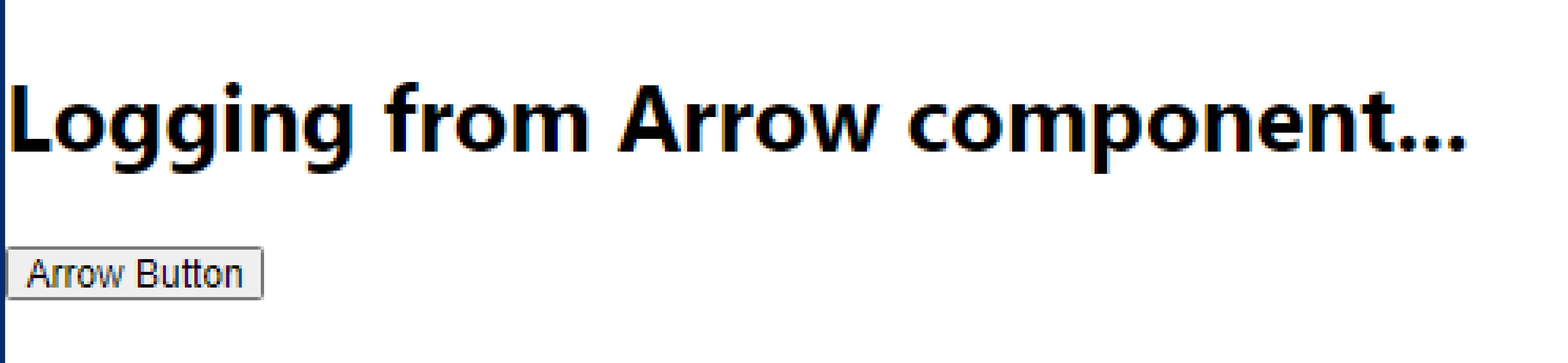
In Arrow-based component



```
const ALogin  = () => {

    const loginHandler  = () => {
        console.log("Calling longin handler from arrow comp...");
    }

    return (
        <div>
            <h1>Logging from Arrow component...</h1>
            <button onClick={loginHandler}>
                Arrow Button
            </button>
        </div>
    );
}

export default ALogin;
```

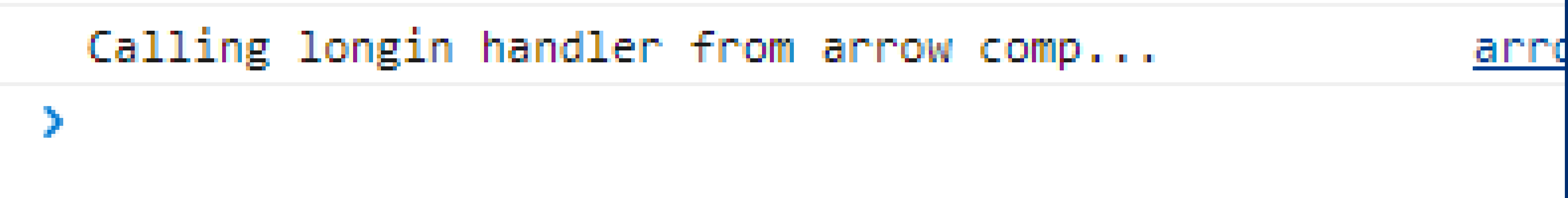


```

import './App.css';
import ALogin from "./arrowbasedcomponent";
function App() {
  return (
 <ALogin></ALogin>
  );
}

export default App;

```



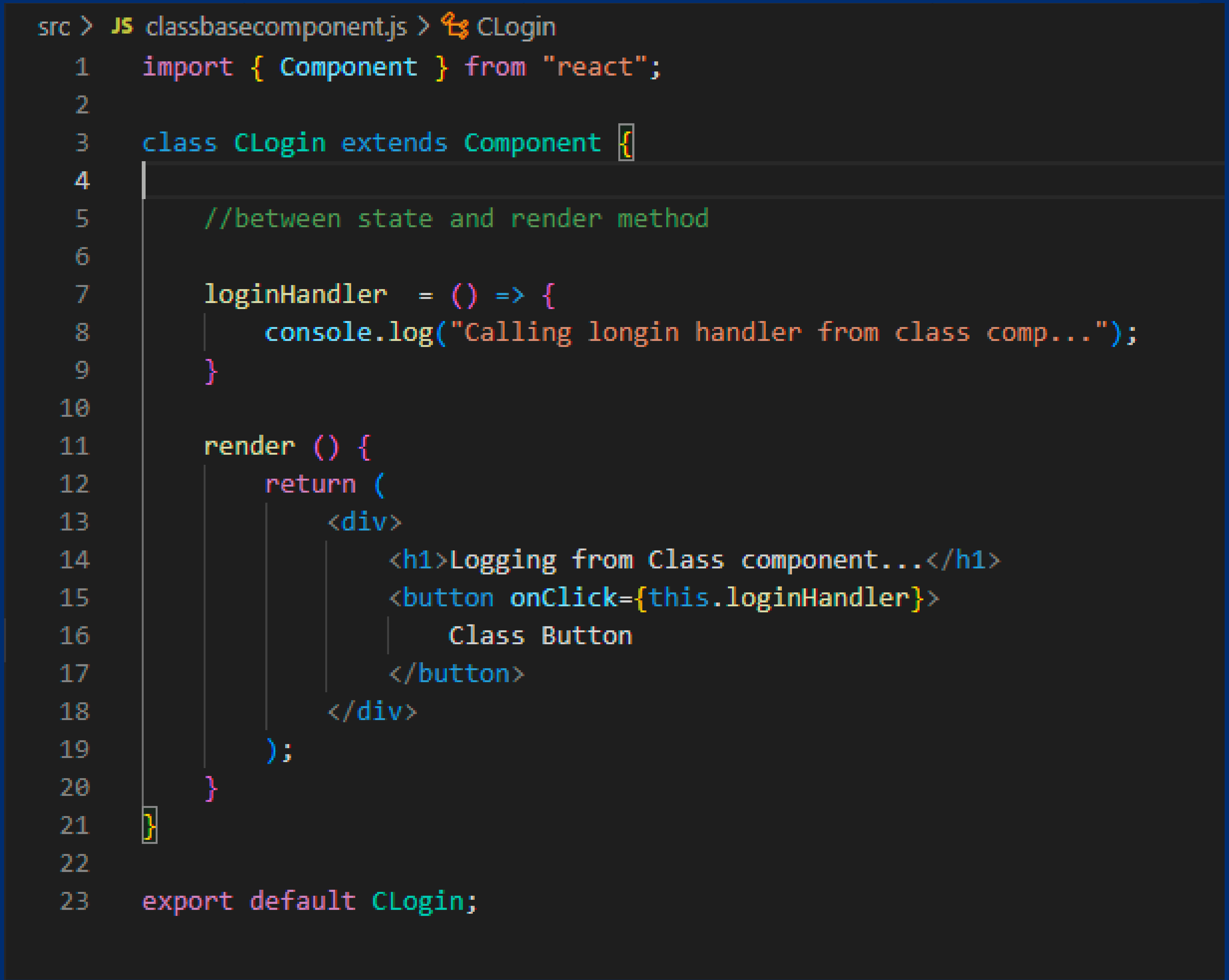
Logging from Arrow component...

Event call on clicking the Button



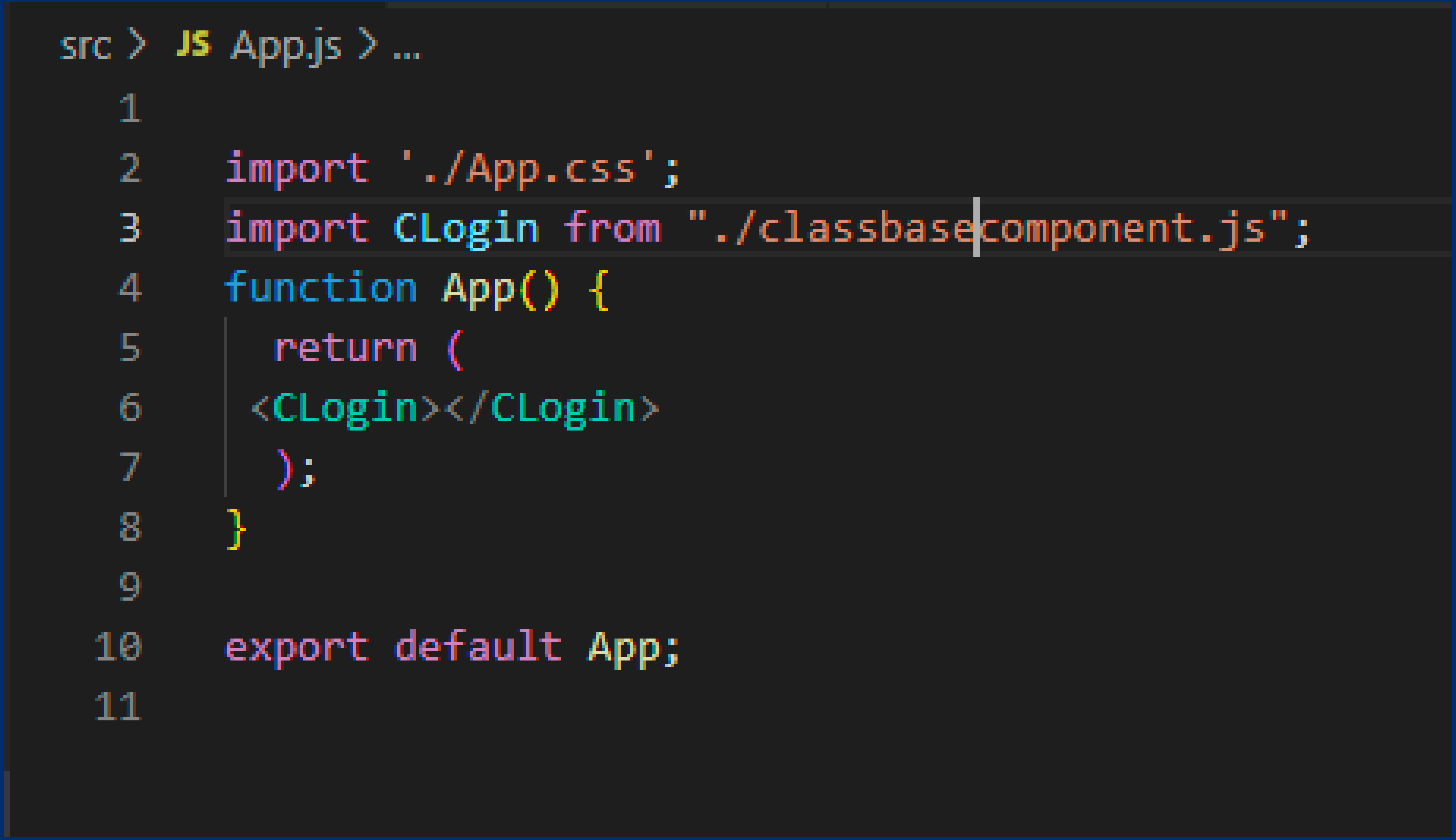
```
  Calling longin handler from arrow comp...          arro
>
```

In class based component

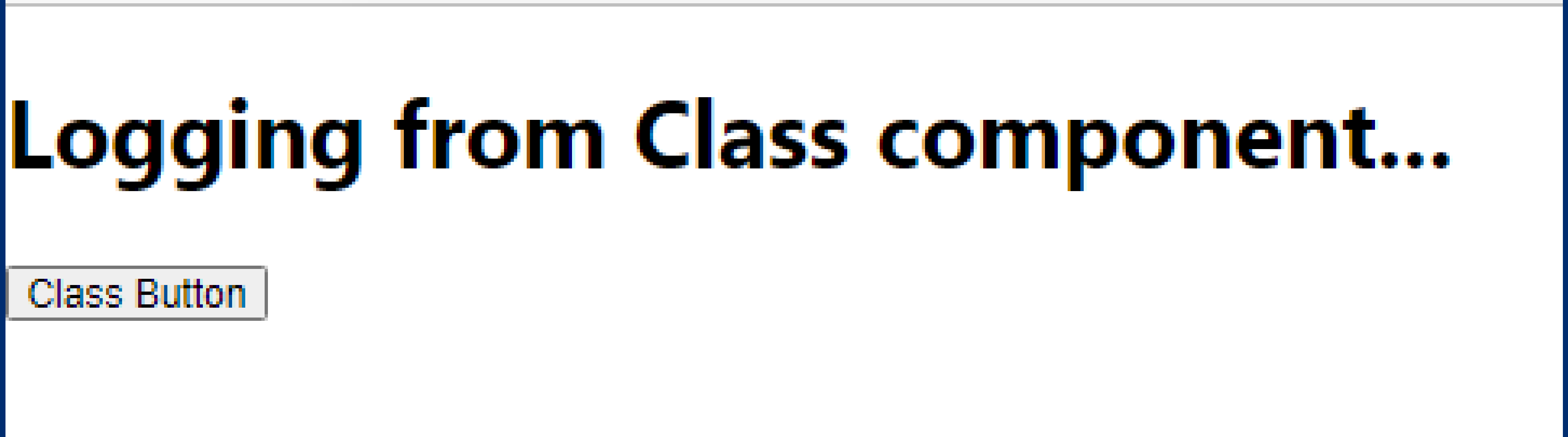


src > JS classbasecomponent.js > CLogin

```jsx
import { Component } from "react";

class CLogin extends Component {

    //between state and render method

    loginHandler  = () => {
        console.log("Calling longin handler from class comp...");
    }

    render () {
        return (
            <div>
                <h1>Logging from Class component...</h1>
                <button onClick={this.loginHandler}>
                    Class Button
                </button>
            </div>
        );
    }
}

export default CLogin;
```

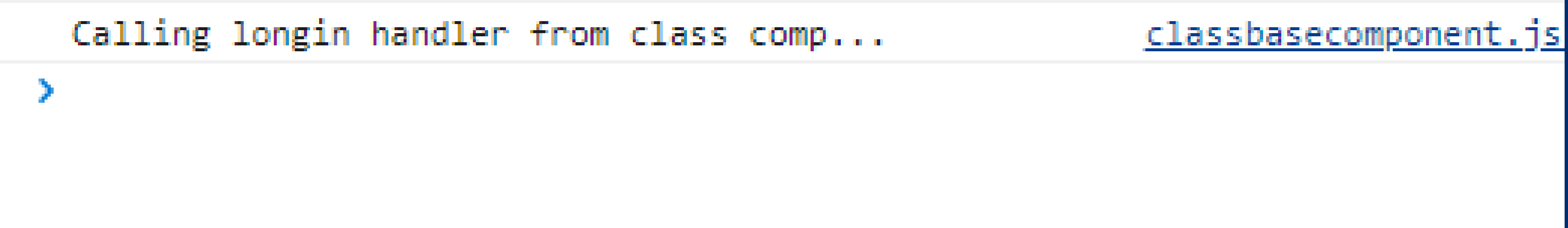


```

import './App.css';
import CLogin from "./classbasecomponent.js";
function App() {
  return (
 <CLogin></CLogin>
  );
}

export default App;

```



Logging from Class component...

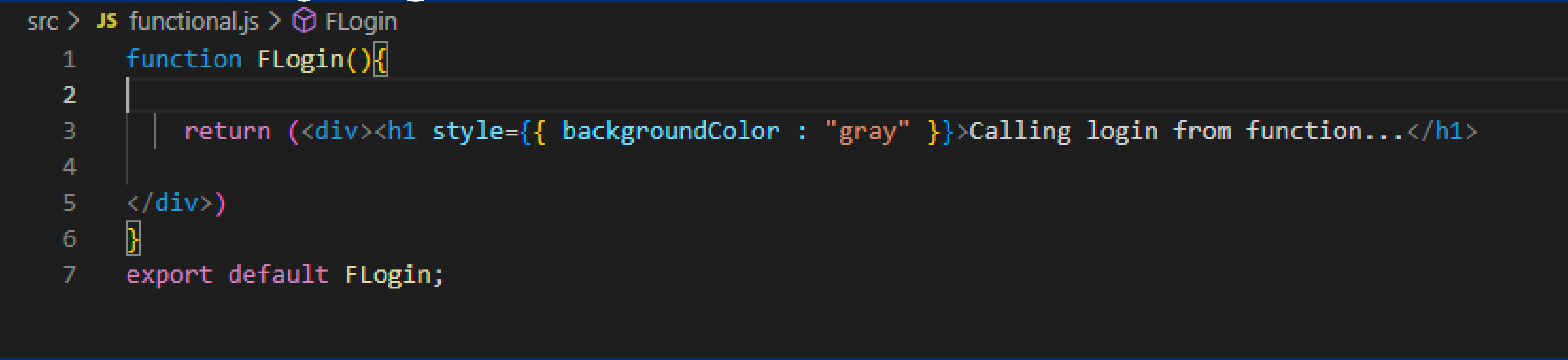
Event calling on clicking the Button



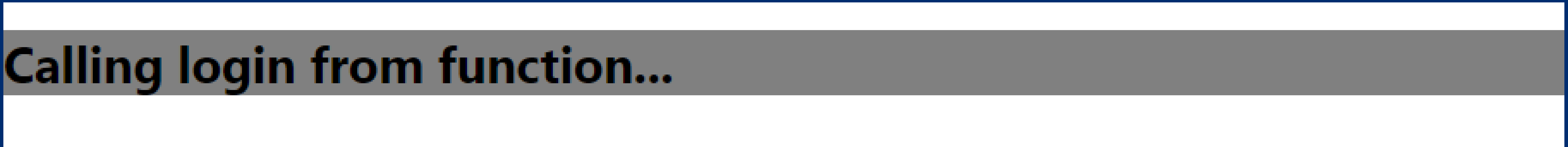
```
Calling longin handler from class comp...          classbasecomponent.js
```

Ways of Styling

Inline Styling

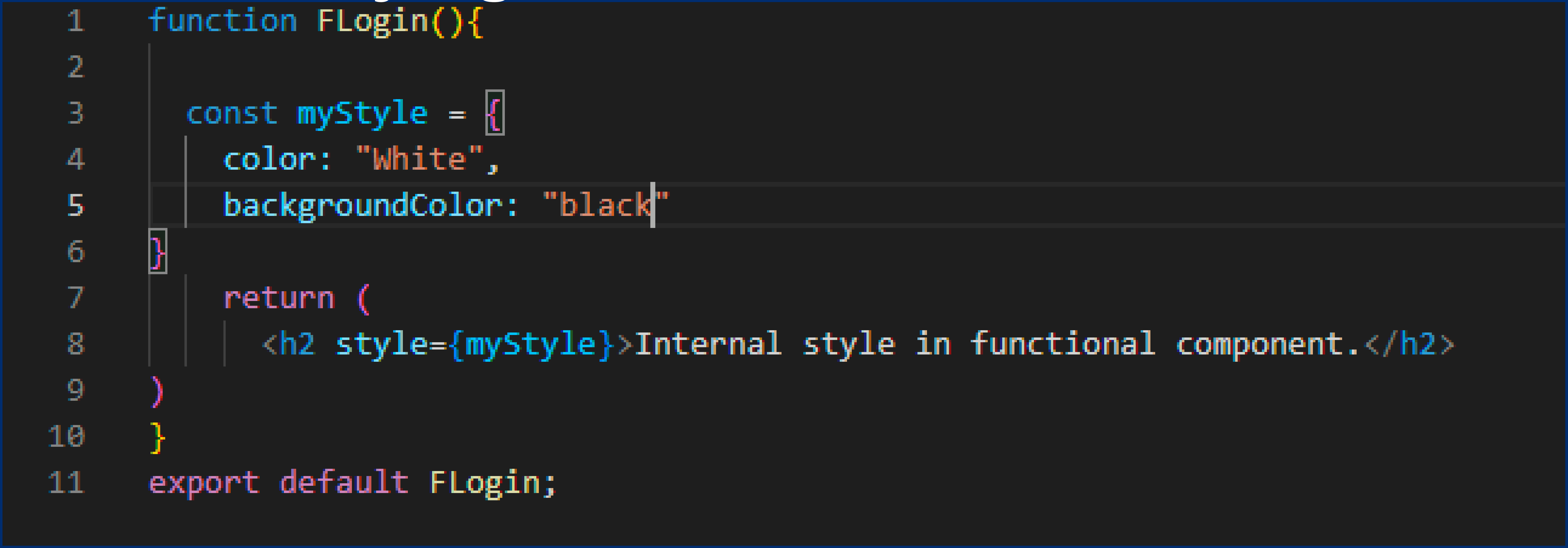


```
function FLogin(){

    return (<div><h1 style={{ backgroundColor : "gray" }}>Calling login from function...</h1>

</div>)
}
export default FLogin;
```

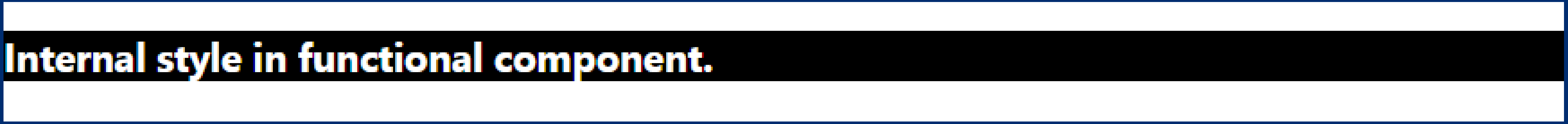


Calling login from function...

Internal Styling

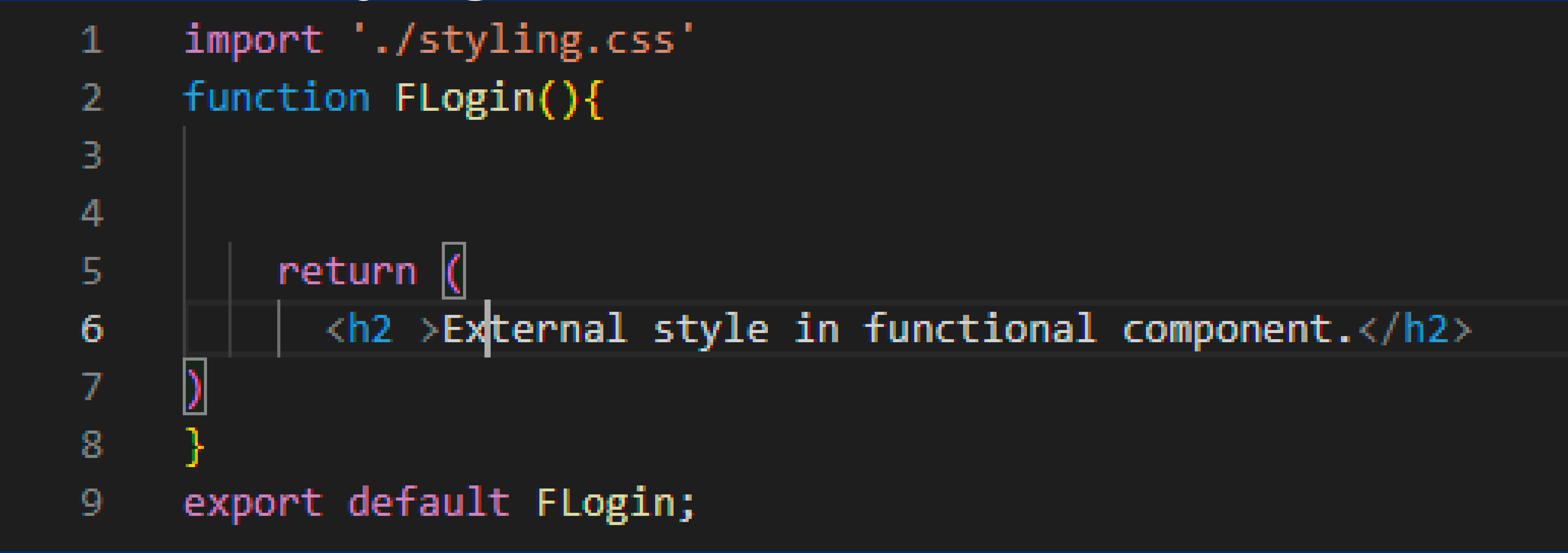


```
function FLogin(){

  const myStyle = {
    color: "White",
    backgroundColor: "black"
}
    return (
      <h2 style={myStyle}>Internal style in functional component.</h2>
)
}
export default FLogin;
```

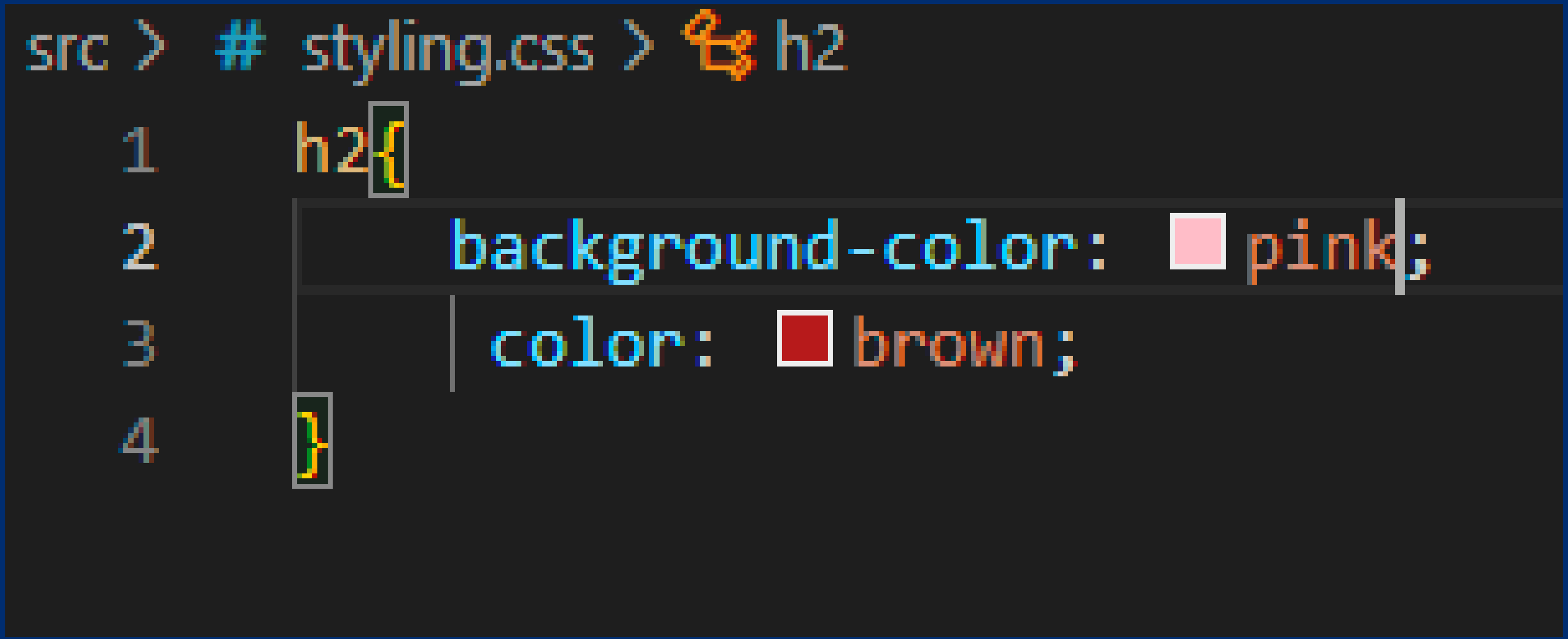


Internal style in functional component.

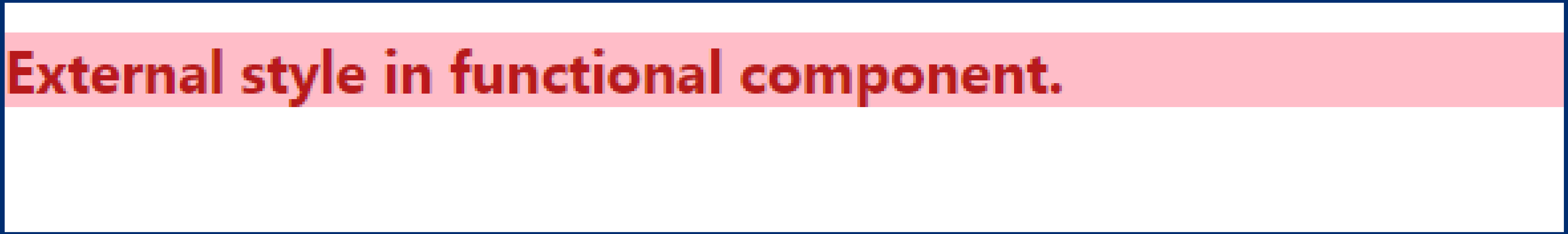
External Styling



```
import './styling.css'
function FLogin(){


    return (
      <h2 >External style in functional component.</h2>
)
}
export default FLogin;
```



```css
h2{
    background-color: pink;
    color: brown;
}
```



External style in functional component.

THANK YOU...