Frontend Development

React Components & How To Create Customized Components:

Components are independent and reusable bits of code. They serve the same purpose as JavaScript functions, but work in isolation and return HTML. Components come in two types, Class components and Function components, in this tutorial we will concentrate on Function components.

In React JS **App.js (<App/>)** is the root component of the React Component Tree. If you want to create your own custom component then these are the following steps:

1. create a folder called components inside the **src** folder.

2. create a js file inside the components folder. Example: **CmpOne.js**

The rule is the first letter of the component js file must be **Uppercase Letter**.

3. Inside the components js file create the component code.

Component code is the combination of js function which is a return type function and JSX code. For function name you give the js file name to the function name

Example: **function CmpOne(){}**

4. inside the function in return you have to give your JSX code.

5. export the function name using the statement [export default function_name].

Example: **export default CmpOne;**

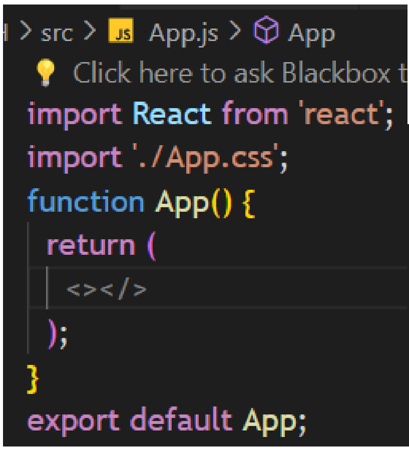
6. in **App.js** file you have to import that component js file to show that JSX code in UI. For import use the statement **[import Function_name from "path-value"]**.

Ex: **import CmpOne from "./components/CmpOne";** no need of adding .js extension.

7. in the **App.js** there is a function called function **App(){}.** Inside the function you will return like this. And export the function App using export statement.

Example: **return (<div> <CmpOne></CmpOne> </div>);**

Component:



src > App.js > App

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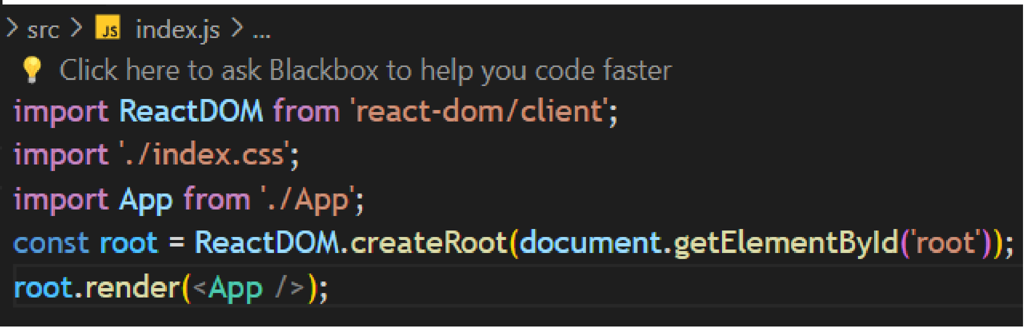
```
import React from 'react';
import './App.css';
function App() {
  return (
    <></>
  );
}
export default App;
```

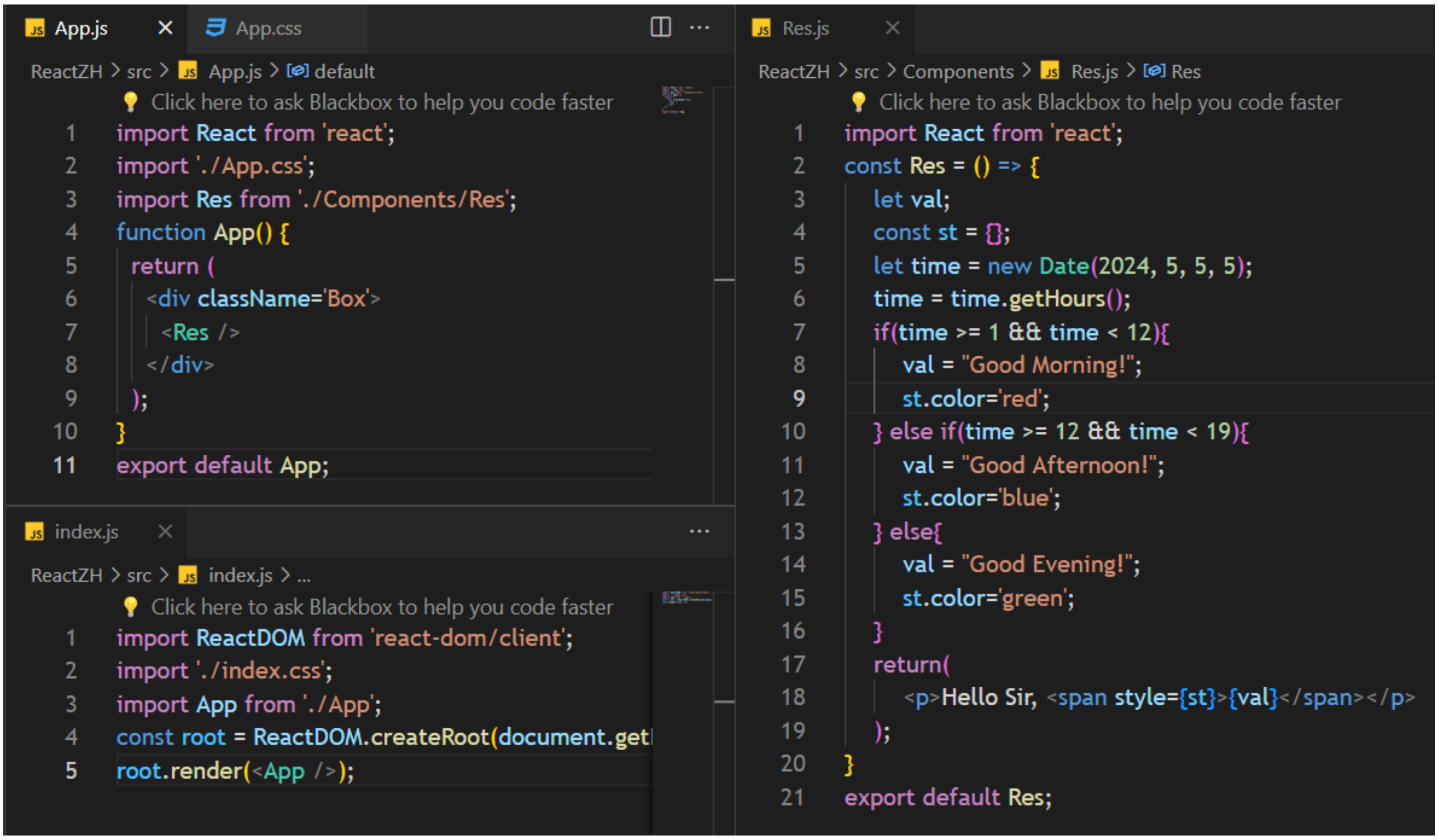


src > index.js > ...

Click here to ask Blackbox to help you code faster

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

Rewrite The Clean Code:

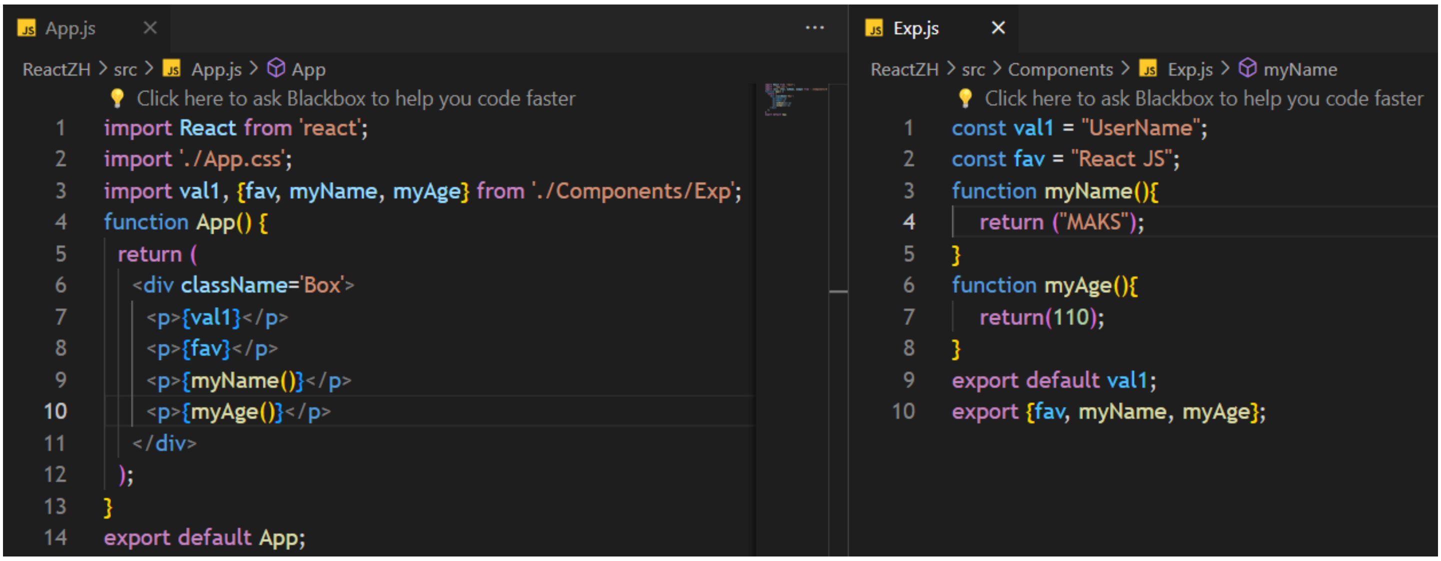

App.js
App.css
ReactZH > src > App.js > default
Click here to ask Blackbox to help you code faster
index.js
ReactZH > src > index.js > ...
Res.js
ReactZH > src > Components > Res.js > Res

```
import React from 'react';
import './App.css';
import Res from './Components/Res';
function App() {
  return (
    <div className='Box'>
      <Res />
    </div>
  );
}
export default App;
```

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

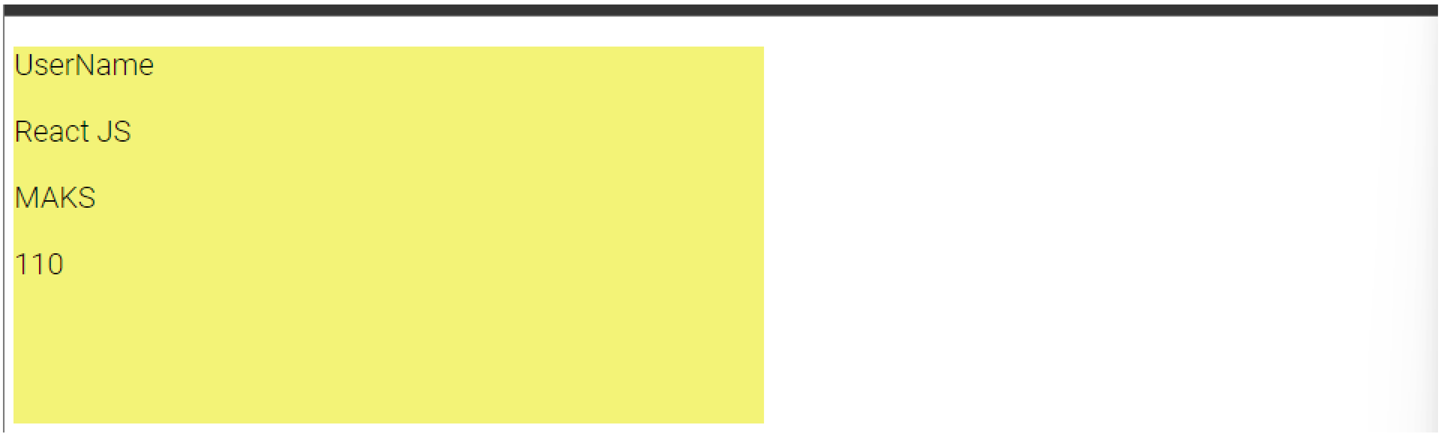
```
import React from 'react';
const Res = () => {
  let val;
  const st = {};
  let time = new Date(2024, 5, 5, 5);
  time = time.getHours();
  if(time >= 1 && time < 12){
    val = "Good Morning!";
    st.color='red';
  } else if(time >= 12 && time < 19){
    val = "Good Afternoon!";
    st.color='blue';
  } else{
    val = "Good Evening!";
    st.color='green';
  }
  return(
    <p>Hello Sir, <span style={st}>{val}</span></p>
  );
}
export default Res;
```

Import Export Modules In React:


App.js
ReactZH > src > App.js > App
Click here to ask Blackbox to help you code faster
Exp.js
ReactZH > src > Components > Exp.js > myName

```
import React from 'react';
import './App.css';
import val1, {fav, myName, myAge} from './Components/Exp';
function App() {
  return (
    <div className='Box'>
      <p>{val1}</p>
      <p>{fav}</p>
      <p>{myName()}</p>
      <p>{myAge()}</p>
    </div>
  );
}
export default App;
```

```
const val1 = "UserName";
const fav = "React JS";
function myName(){
  return ("MAKS");
}
function myAge(){
  return(110);
}
export default val1;
export {fav, myName, myAge};
```



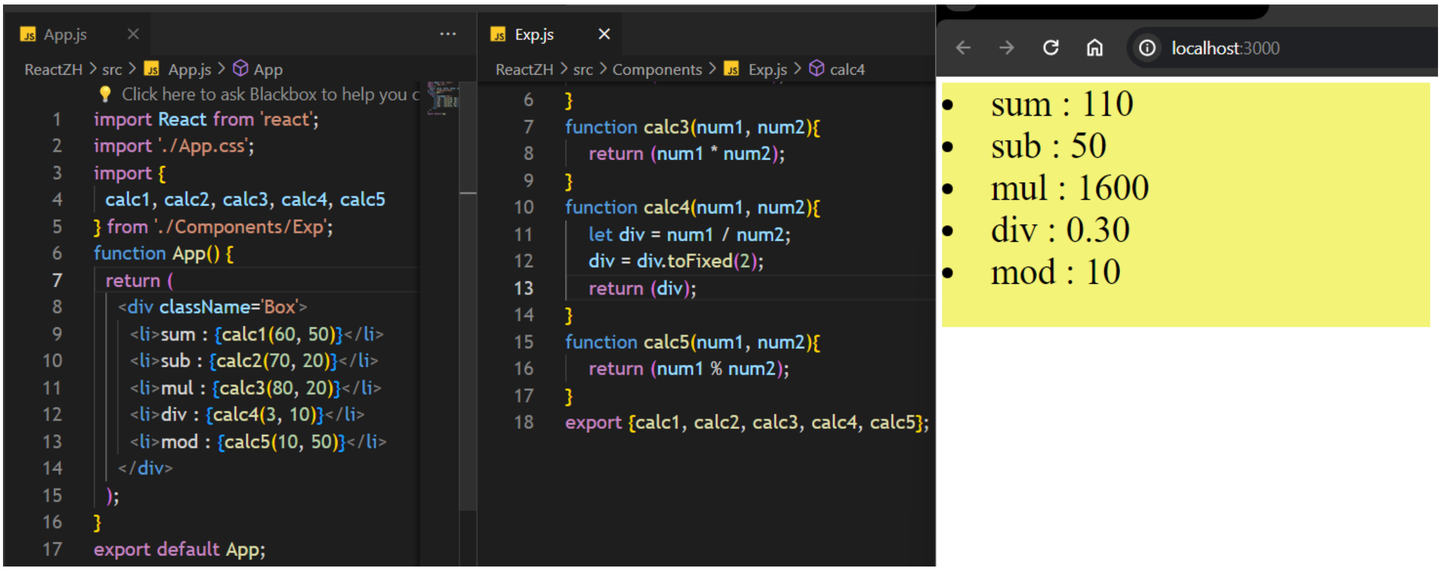
```
UserName

React JS

MAKS

110
```

Challenge – 04: **Create Simple Calculator In React:**


App.js
ReactZH > src > App.js > App
Click here to ask Blackbox to help you c
Exp.js
ReactZH > src > Components > Exp.js > calc4
localhost:3000

```
import React from 'react';
import './App.css';
import {
  calc1, calc2, calc3, calc4, calc5
} from './Components/Exp';
function App() {
  return (
    <div className='Box'>
      <li>sum : {calc1(60, 50)}</li>
      <li>sub : {calc2(70, 20)}</li>
      <li>mul : {calc3(80, 20)}</li>
      <li>div : {calc4(3, 10)}</li>
      <li>mod : {calc5(10, 50)}</li>
    </div>
  );
}
export default App;
```

```
}
function calc3(num1, num2){
  return (num1 * num2);
}
function calc4(num1, num2){
  let div = num1 / num2;
  div = div.toFixed(2);
  return (div);
}
function calc5(num1, num2){
  return (num1 % num2);
}
export {calc1, calc2, calc3, calc4, calc5};
```

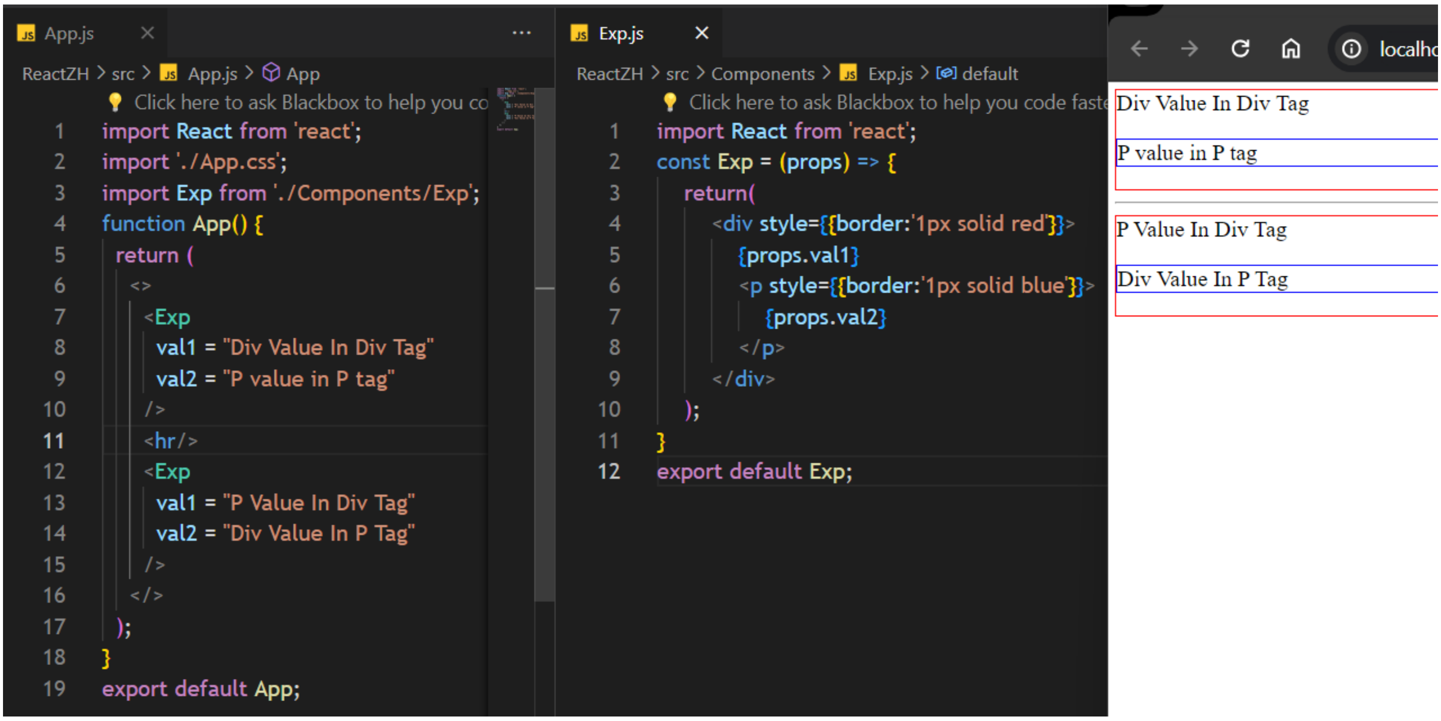
```
• sum : 110
• sub : 50
• mul : 1600
• div : 0.30
• mod : 10
```

Props Concept In React.JS: *****

Props which stands for properties. React props are like function arguments in javascript and attributes in HTML. In the below image App.js is the root component js file and the Exp.js is the branch component js file.

In App.js you can see we call the customized <Exp /> using the "import Exp from './Components/Exp';" In the customized <Exp /> we are passing two arguments va1 and val2. But the question is how I will access those values in Exp.js component files.

The answer is props concept using props you can access those values from customized JSX components to its respective customized component.


App.js
ReactZH > src > App.js > App
Click here to ask Blackbox to help you co
Exp.js
ReactZH > src > Components > Exp.js > default
Click here to ask Blackbox to help you code faste
localhc

```
import React from 'react';
import './App.css';
import Exp from './Components/Exp';
function App() {
  return (
    <>
      <Exp
        val1 = "Div Value In Div Tag"
        val2 = "P value in P tag"
      />
      <hr/>
      <Exp
        val1 = "P Value In Div Tag"
        val2 = "Div Value In P Tag"
      />
    </>
  );
}
export default App;
```

```
import React from 'react';
const Exp = (props) => {
  return(
    <div style={{border:'1px solid red'}}>
      {props.val1}
      <p style={{border:'1px solid blue'}}>
        {props.val2}
      </p>
    </div>
  );
}
export default Exp;
```

```
Div Value In Div Tag
P value in P tag

P Value In Div Tag
Div Value In P Tag
```