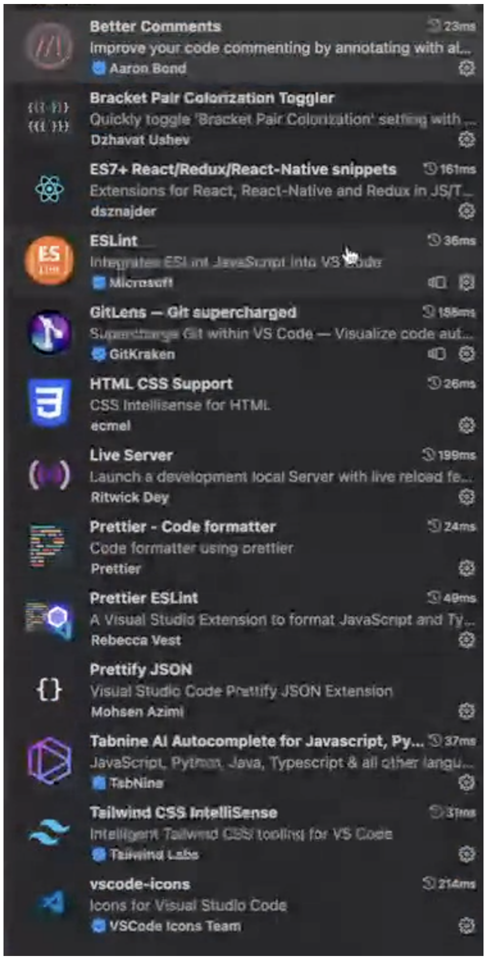
Chapter 01 - Inception

▼ Difference between library and framework

- Framework: Comes with lot of components. Eg: Routing etc
- React is a library. It takes minimum effort for library to put inside our code.

▼ Useful VS code Extensions:



Better Comments 23ms
Improve your code commenting by annotating with al...
Aaron Bond

Bracket Pair Colorization Toggler
Quickly toggle 'Bracket Pair Colorization' setting with ...
Dzhavat Ushev

ES7+ React/Redux/React-Native snippets 161ms
Extensions for React, React-Native and Redux in JS/T...
dsznajder

ESLint 36ms
Integrates ESLint JavaScript into VS Code
Microsoft

GitLens — Git supercharged 158ms
Supercharge Git within VS Code — Visualize code aut...
GitKraken

HTML CSS Support 26ms
CSS Intellisense for HTML
ecmel

Live Server 199ms
Launch a development local Server with live reload fe...
Ritwick Dey

Prettier - Code formatter 24ms
Code formatter using prettier
Prettier

Prettier ESLint 49ms
A Visual Studio Extension to format JavaScript and Ty...
Rebecca Vest

Prettify JSON
Visual Studio Code Prettify JSON Extension
Mohsen Azimi

Tabnine AI Autocomplete for Javascript, Py... 37ms
JavaScript, Python, Java, Typescript & all other langu...
TabNine

Tailwind CSS IntelliSense 31ms
Intelligent Tailwind CSS tooling for VS Code
Tailwind Labs

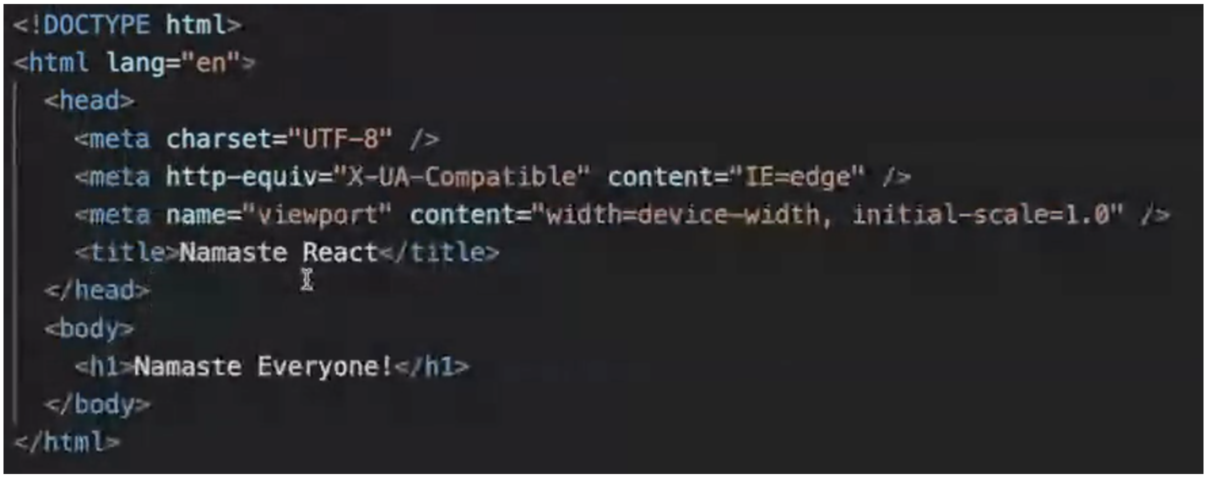
vscode-icons 214ms
Icons for Visual Studio Code
VSCode Icons Team

▼ Homework: Emmet

- Read about Emmet.
  - Vs code emit boiler plate code https://code.visualstudio.com/docs/editor/emmet

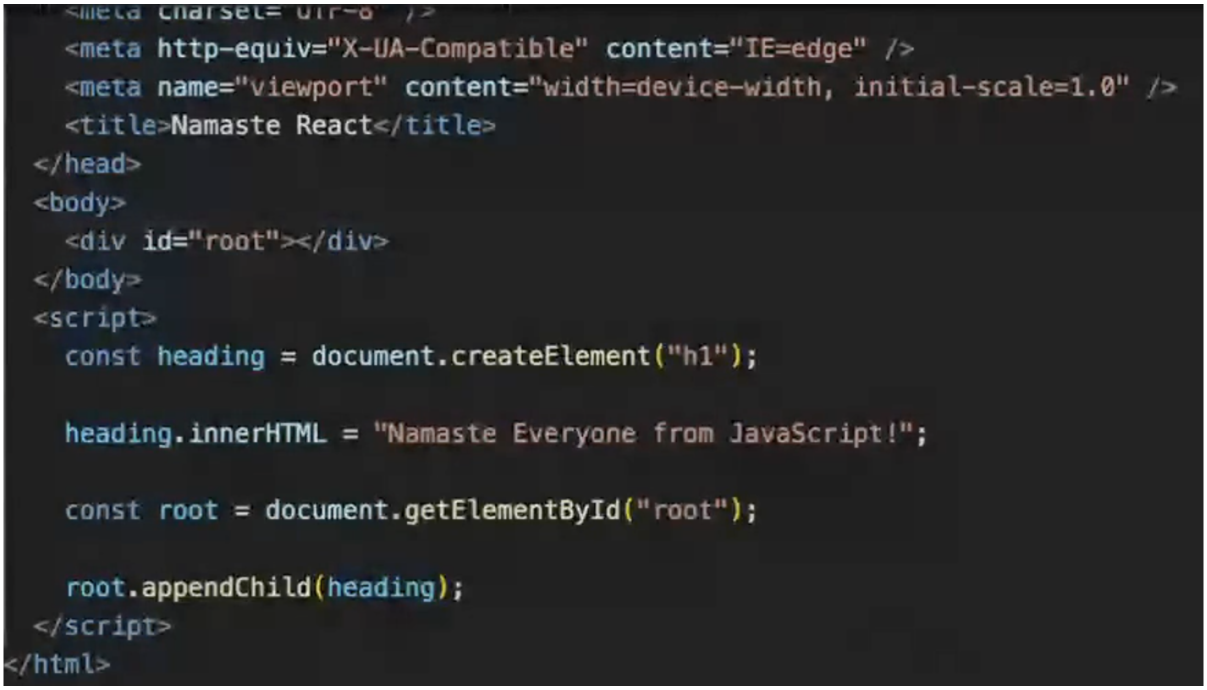
Create header using:

▼ html



```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Namaste React</title>
  </head>
  <body>
    <h1>Namaste Everyone!</h1>
  </body>
</html>
```

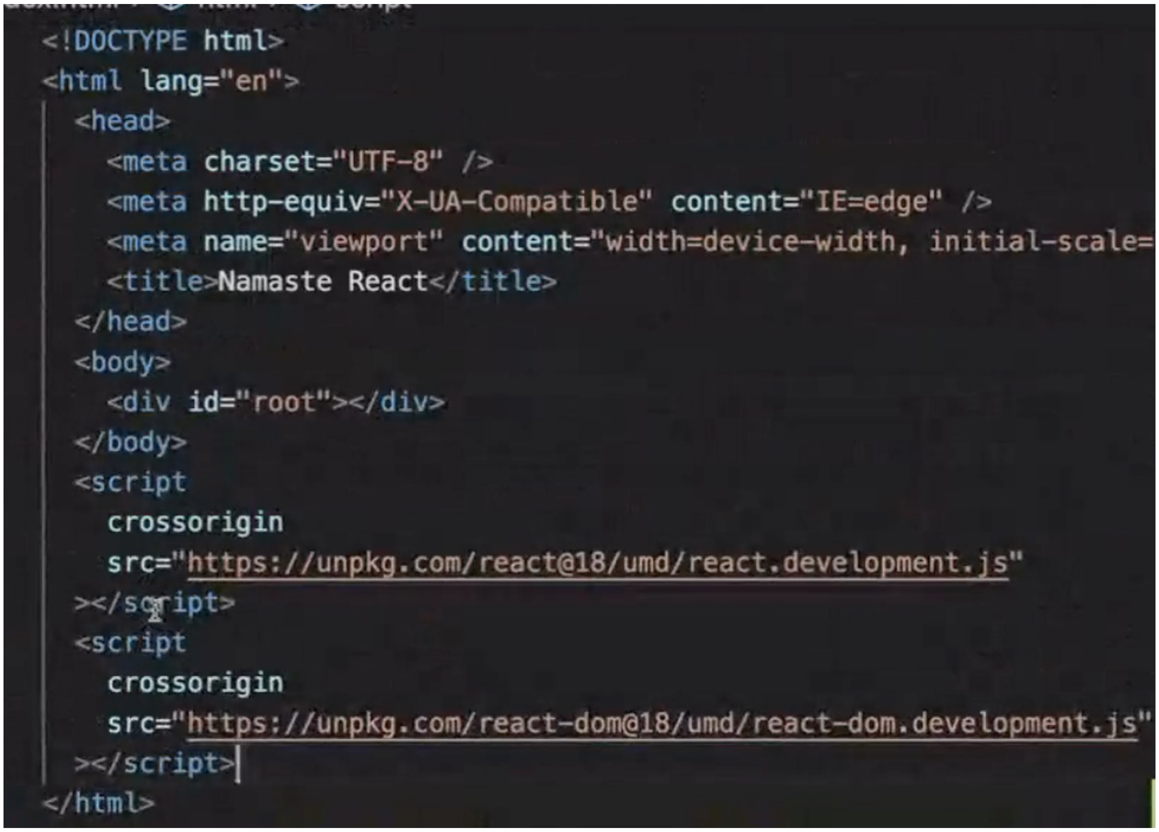
▼ Javascript



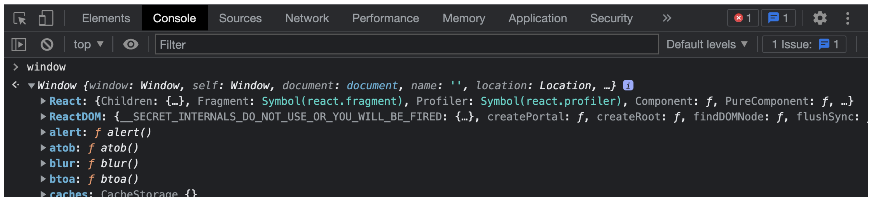
```html
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Namaste React</title>
  </head>
  <body>
    <div id="root"></div>
  </body>
  <script>
    const heading = document.createElement("h1");

    heading.innerHTML = "Namaste Everyone from JavaScript!";

    const root = document.getElementById("root");

    root.appendChild(heading);
  </script>
</html>
```

▼ React

- React CDN links: `"https://unpkg.com/react@18/umd/react.development.js",` `"https://unpkg.com/react-dom@18/umd/react-dom.development.js"`
- React is just a piece of javascript code
- can be injected as html script src
- This will add React & ReactDOM to global object window



```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=
    <title>Namaste React</title>
  </head>
  <body>
    <div id="root"></div>
  </body>
  <script
    crossorigin
    src="https://unpkg.com/react@18/umd/react.development.js"
  ></script>
  <script
    crossorigin
    src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"
  ></script>
</html>
```



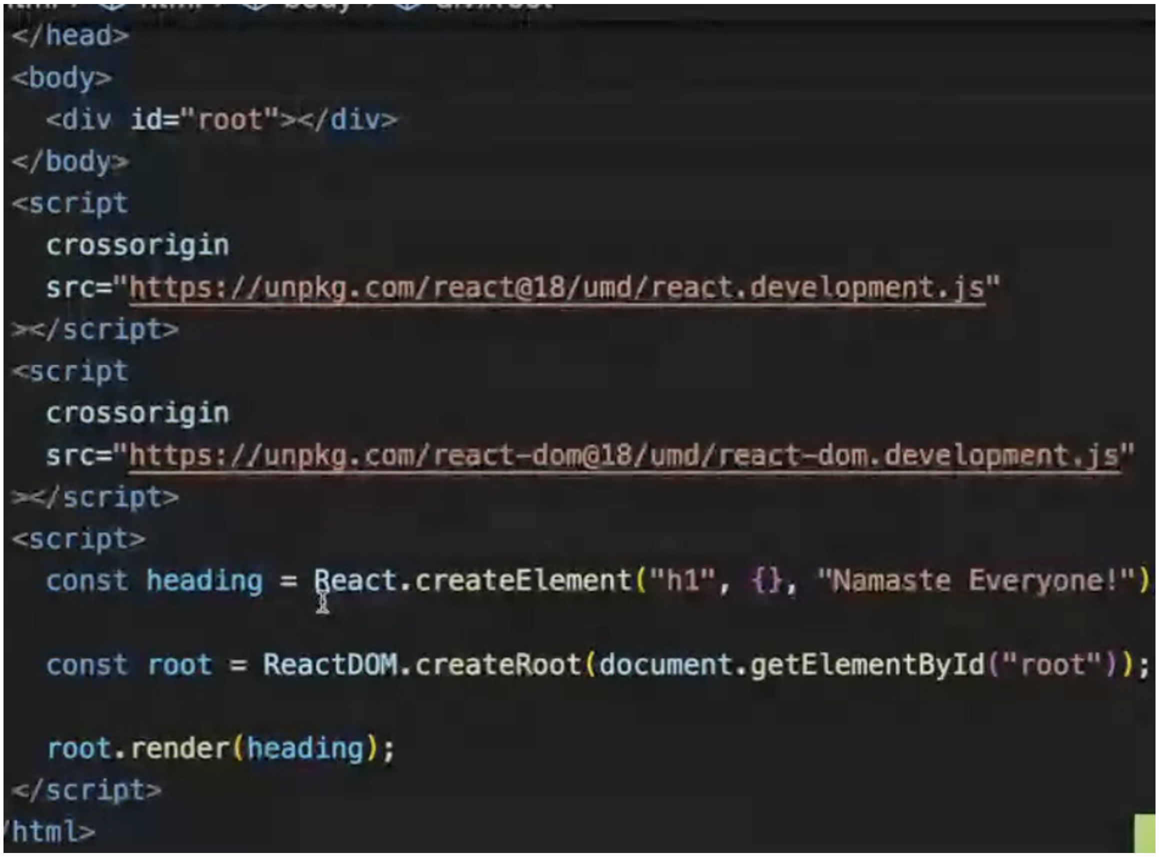
```
> window
< ▼Window {window: Window, self: Window, document: document, name: '', location: Location, …}
    ▶React: {Children: {…}, Fragment: Symbol(react.fragment), Profiler: Symbol(react.profiler), Component: ƒ, PureComponent: ƒ, …}
    ▶ReactDOM: {__SECRET_INTERNALS_DO_NOT_USE_OR_YOU_WILL_BE_FIRED: {…}, createPortal: ƒ, createRoot: ƒ, findDOMNode: ƒ, flushSync:
    ▶alert: ƒ alert()
    ▶atob: ƒ atob()
    ▶blur: ƒ blur()
    ▶btoa: ƒ btoa()
    ▶caches: CacheStorage {}
```

▼ Homework: CDN

- What is CDN:
- Content delivery network
- What is cross origin

Why there are two files React & ReactDOM

- React is not only for browser, it works for mobile and other platforms.
- React is core version of React.
- ReactDOM means web version of react.
- ReactDOM gives access to Browser DOM.



```html
</head>
<body>
  <div id="root"></div>
</body>
<script
  crossorigin
  src="https://unpkg.com/react@18/umd/react.development.js"
></script>
<script
  crossorigin
  src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"
></script>
<script>
  const heading = React.createElement("h1", {}, "Namaste Everyone!")

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

  root.render(heading);
</script>
/html>
```

- React.createElement can be used to create a react element (still not in browser DOM). This is plain Javascript object. These are React tags not actual html.
- ReactDOM.createRoot() will tell which is root element in browserDOM (ReactDOM can access browser DOM).
- Though element created using React.createElement is same for all platforms, ReactDOM is specific for browser DOM. (differnt one for Mobile)
- So after creating an React element, and telling ReactDOM which DOM element in browser is root, how do we add react element to root in browser DOM?
    - root.render() does that. Bascically here ReactDOM accepting react element(Javascript object), and adding it as DOM element to browser

▼ Can we have multiple root?

- Generally for any big/small app, we will have one root and one render method. React will be injected to root element.
- root is the place where react runs, we can have anything before and after root element in html. So we can add react to even existing app (for eg: add a search element which is react). But generally we dont do that and have only one root as above.

▼ What is the empty tag {} in React.createElement above

- we can pass things like id, class etc (https://beta.reactjs.org/reference/react/createElement)

▼ What if we add elements inside root using html manually and also add an element using use react.render() ?

- element added using react will overide other elements in root.

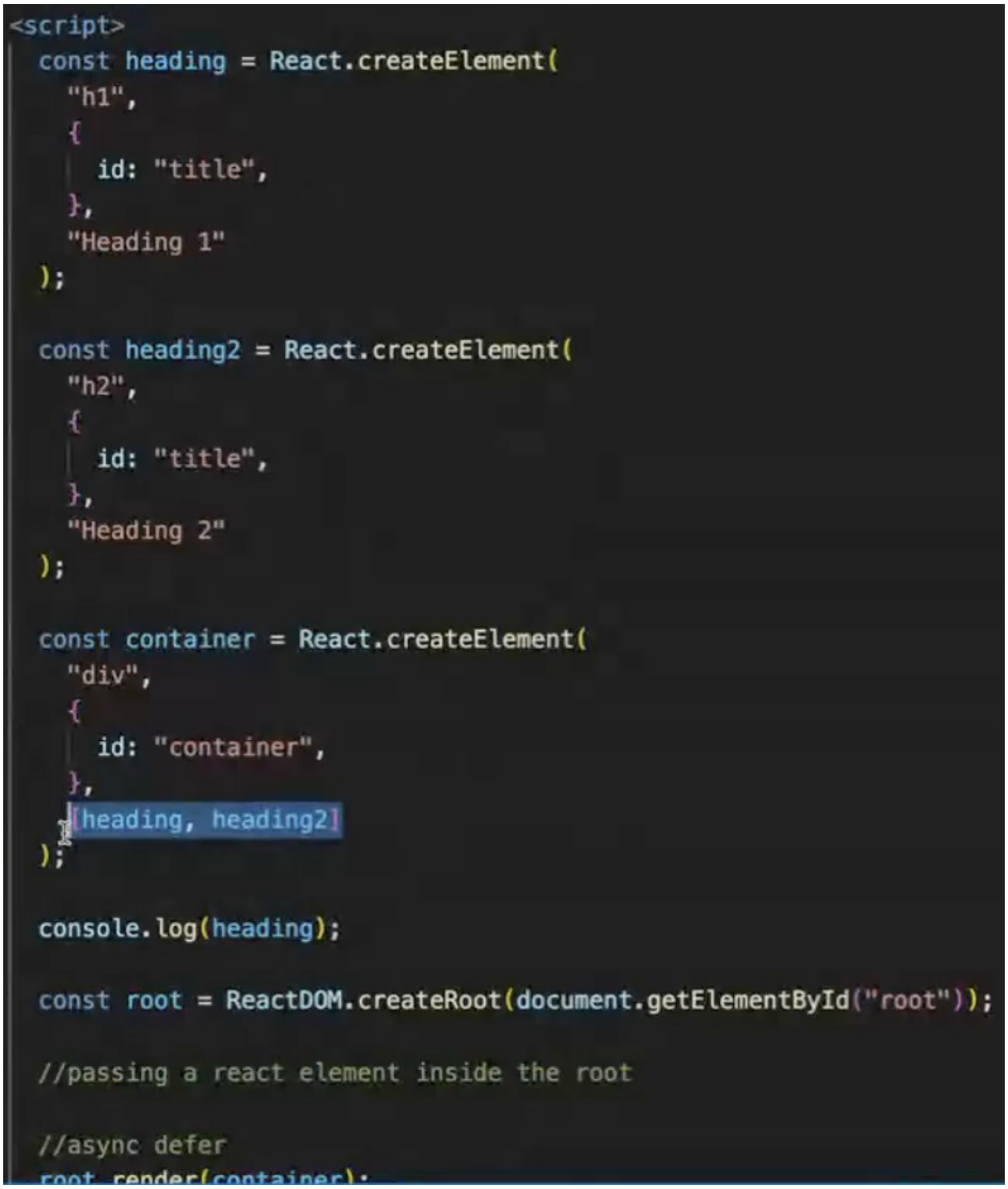
▼ HomeWork:

- Difference between async and defer, while calling script?

https://eager.io/blog/everything-I-know-about-the-script-tag/

▼ Creating complex html with multiple children using React:

- Pass children in array param for React.createElement



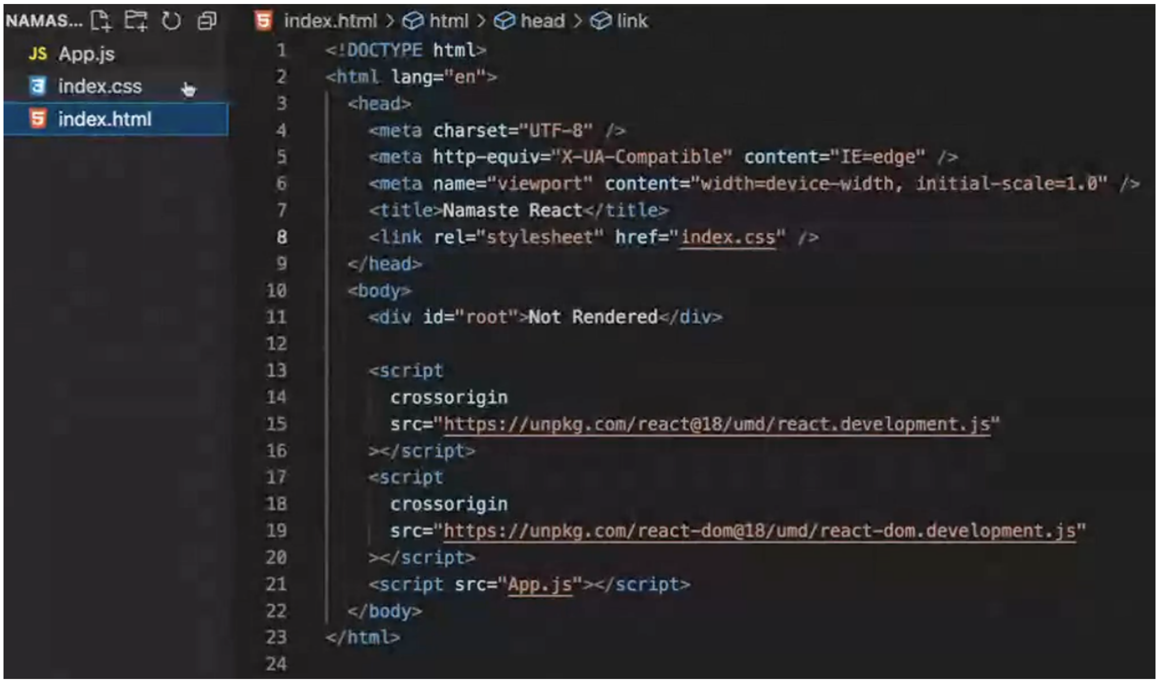
```
<script>
  const heading = React.createElement(
    "h1",
    {
      id: "title",
    },
    "Heading 1"
  );

  const heading2 = React.createElement(
    "h2",
    {
      id: "title",
    },
    "Heading 2"
  );

  const container = React.createElement(
    "div",
    {
      id: "container",
    },
    [heading, heading2]
  );

  console.log(heading);

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

  //passing a react element inside the root

  //async defer
  root.render(container);
```

JSX

React wanted to write whole html & css inside Javascript.

- Because they don’t want us go to html / css file.
- React.createElement() method is used to create html & css, this is plain javascript object.
- But this is not user friendly and lot of code → JSX came into picture. So JSX is not mandatory for react.

Reduce file size by spliting code into differnt file & importing



```html
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8" />
    <meta http-equiv="X-UA-Compatible" content="IE=edge" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <title>Namaste React</title>
    <link rel="stylesheet" href="index.css" />
  </head>
  <body>
    <div id="root">Not Rendered</div>

    <script
      crossorigin
      src="https://unpkg.com/react@18/umd/react.development.js"
    ></script>
    <script
      crossorigin
      src="https://unpkg.com/react-dom@18/umd/react-dom.development.js"
    ></script>
    <script src="App.js"></script>
  </body>
</html>
```