



# 01-Assignment-Inception

## Theory

### ▼ What is Emmet

Emmet is a code editor plugin that allows us to write HTML & CSS faster. By default, it is available in the Visual Studio Code.

In the below example, by using **! + TAB** we have generated a HTML boilerplate using Emmet.

A screenshot of a dark-themed code editor window. The title bar shows "index.html" and "U index.html". The main area of the editor has a single character, 'I', displayed. The rest of the screen is mostly black, indicating a large amount of whitespace or a blank document.

### ▼ Difference between a Library and Framework?

Library	Framework
Library is a collection of functionalities that we can use in our code to achieve results and provides a way for developers to perform those tasks without having to write all of the code from scratch.	A Framework is a set of tools and conventions for building and organizing code. A framework provides a structure for the code that developers write, and enforces certain conventions and rules for how that code should be organized and structured.
React is a JavaScript library for building user interfaces.	Angular is a complete end-to-end framework that provides all of the tools and functionality needed to build a complete web application.
It does not provide a lot of the functionality needed to build a complete web application, such as routing, form validation, and state management. As a result, it is often used in combination with other libraries or frameworks to build complete web applications.	It includes a powerful templating system, a dependency injection system, and a lot of other features that make it a full-fledged framework.
React is a declarative library, meaning that it allows developers to describe the UI and how it should behave, and the library takes care of rendering the UI and keeping it up to date	Is an imperative framework, which means that developers have to write code that explicitly tells the framework how to manipulate the DOM to achieve the desired UI.
With a library, developers have more control over how they use the code, and can use it in a variety of different ways.	With a framework, developers have less control, and must follow the conventions and structure set forth by the framework in order to use it effectively.

### ▼ What is CDN? Why do we use it?

A content delivery network (CDN) is a system of distributed servers that deliver web content, such as images, JavaScript files, and CSS stylesheets, as well as dynamic content, such as HTML pages and APIs from a server that is closer to the user, CDNs can **reduce the latency and improve the performance of websites and web applications**.

### ▼ Why is React known as React ?

React is a JavaScript library for building interactive user interfaces. It is an open-source frontend library developed and maintained by Facebook. In the MVC architecture, it is responsible for the view layer of our application i.e **rendering our user interface and updating the UI whenever the user Reacts or changes the view**.

### ▼ What is crossorigin in script tag?

The crossorigin attribute provides support for CORS, defining how the element handles cross-origin requests.

Cross-Origin Resource Sharing (CORS) is a security feature implemented by web browsers that blocks web pages from making requests to a different domain than the one that served the web page. This is done to prevent malicious websites from making requests to our site on behalf of the user, which could potentially compromise their data or security.

```
<script  
  src="https://example.com/example-framework.js"  
  crossorigin="anonymous"></script>  
  
<link rel="manifest" href="/app.webmanifest" crossorigin="use-credentials" />
```

When a web page makes a request to a server, the browser checks the response headers to see if the server has specified that the domain is allowed to make the request. If the domain is not allowed, the browser blocks the request and the server will not receive it.

[HTML attribute: crossorigin - HTML: HyperText Markup Language | MDN](#)

The crossorigin attribute, valid on the , , , and elements, provides support for CORS, defining how the element handles cross-origin requests, thereby enabling the configuration of the CORS requests for the element's fetched data. Depending

 <https://developer.mozilla.org/en-US/docs/Web/HTML/Attributes/crossorigin>

 mdn web docs

### ▼ What is difference between React and ReactDOM ?

As React creates a visual representation of our UI. With the help of React DOM library we can perform DOM manipulation based on that Virtual DOM.

### ▼ What is difference between react.development.js and react.production.js files via CDN?

Both React and ReactDOM are available over a CDN.

```
<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>
```

The versions above are only meant for development, and are not suitable for production.

Minified and optimized production versions of React are available at:

```
<script crossorigin src="https://unpkg.com/react@18/umd/react.production.min.js"></script>
<script crossorigin src="https://unpkg.com/react-dom@18/umd/react-dom.production.min.js"></script>
```

The development version contains helper function such as warnings whereas, in production

all comments are removed and dont include helper function .

```
// If we compare size when we do npm install

-- During Development
react-devleopment.js == 106KB
react-dom-devlopment.js == 909KB

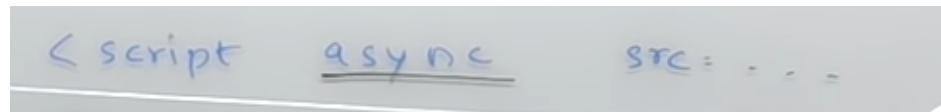
--During production
react.production.js == 16KB
react-dom.proudction.js == 119KB
```

## ▼ What is async and defer?

They are boolean attributes which are used around script tags to load the external scripts efficiently to our webpage.

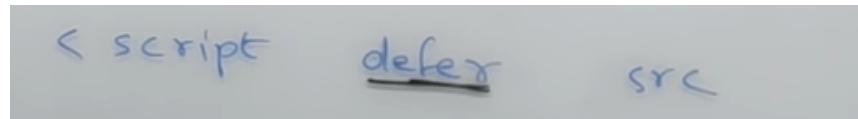
```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Document</title>
8  </head>
9  <body>
10     <script src="index.js"></script>
11  </body>
12  </html>|
```

In the Normal scenario, when the browser is parsing the HTML line by line and it suddenly encounters a script tag at line 10. The browser will stop the parsing at that point of time. it fetches the script from the network. and gets in the browser and runs there. The HTML parsing will only continue once the Javascript has been parsed



```
<script async src: ...>
```

HTML parsing is done in parallel while scripts are being fetched from the network and executed. Better to avoid `async` for scripts as that are dependent on other scripts.



```
<script defer src>
```

It is similar to `async`, where HTML parsing is done in parallel with scripts are fetched from the network and are only executed when HTML parsing is completed.

## Coding

<https://github.com/NishantGautam023/Namaste-React>