**Assignment-1**

* **EMMET-->**
  + a plugin or toolkit for editors
  + it enhance html and css workflow
  + it give us a framework of default code for html
  + it auto close tags for us
  + its written in js and portable with different platforms like web browsers, node.js etc
  + its opensource so we can reuse its modules to create our own action and add few json files to it
* **CDN-->**content delivery network
  + its a **geographically distributed group of servers**
  + it **caches** content close to end users
  + libraries links are provided by cdn to **connect with** respective **server**(react, react-dom)
  + it allows for **quick transfer** of assets needed for loading internet content including html pages, js files/libraries stylesheet ,images and vedioes etc.
  + majority of web traffic is served through CDNs including facebook,netflix, amazon etc.
  + properly configured CDN may help **protect websites** against malicious attacks.(eg. DDOS)
  + it **improves websites load times**
  + **improves websites security**
  + **reducing bandwidth costs** using caching and other optimizations.
  + **increasing content availability and redundancy** because of its distributed nature it can handle more traffic.
* **React is known as React:--> because of its ability to response or ‘react’ dynamically to changes in data .**
* **cross-origin in Script tag-->** 
  + crossorigin attribute sets the mode of the request to an HTTP CORS request
  + webpages often make requests to load resources on other servers. **CORS**(cross-origin-resourse-sharing) it request for resource eg. stylesheet ,iframes,images ,fonts scripts, data from api from another domain.
  + **access-control-allow-origin is cors header.**
* **Library Vs FrameWork:-->** Both are set of pre-written code which help us in coding or give a supporting coding environment

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| **parameter** | **libraries** | **framework** |
| * defination * control flow * purpose * flexibility * architectural * eg. * inversion of control * compatibility * size * coupled(tightly/loosely) * scope | * this pre-written code can be used to perform specific task. * use libraries to control program flow * it is like a task or function specific which help in user to write less code eg. math lib we can use to get mathematical operation * it reusable and more flexible and consistent with its well documented interface. * its task specific and help in forming architecture pattern * math lib, jquery, bootstrap, p5, matter, aframe etc each one has its specific functions or operations * our code calls the libraries when its called or used * libraries are often built-in compatibility with popular libraries and framework for easy use * libaries can be small and large in size but smaller as compare to framework as dedicated to specific task focused. * loosely coupled as lib code can be used independently of application’s code * with size library has smaller scope with specific task | * this pre-written code provide a structure or architecture for developing software application like an environment.it define the overall architecture of application * program flow is controlled by framework * it is like a foundation for developers to build applications for particular platform or purpose, with its reusable code. * it is flexible and scalable with strict conventions and guidelines(supportingness) * may enforce its own architectural patterns * node, react, Django etc. with specific language environment with couple of libraries in it. * it will tell where to put the code but call our code as needed (order). code in framework calls the written code. * it provide higher security and reduce the code with reusabliity and compatibility depends on platforms * it is larger is size as it includes libraries, classes etc. * tightly coupled as its code is closely interwoen with application’s code * larger scope as it defines overall architecture of application and provide common set of conventions for building and mainting code |

* **React Vs ReactDom:-->Both are js library**

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| **parameter** | **React** | **ReactDom** |
| * usage * roles * browser interaction | * this library designed for building better user interfaces * when we use components , classes, elements etc we are using React * react doesnt has nothing to do with browser/web | * it glues react to the browser DOM * when we use methods like render() , findDOMNode() we are using ReactDOM * it binds the idea of react or code to web browser |

* **React.development.js and react.production.js via CDN:-->**

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| **parameter** | **react.development.js** | **react.production.js** |
| * mode * performance * size * readable * developer friendly | * in this mode we can enable and utilize react developer tools , devtools profiler , debugging environment attached with source code. we can utilize various functionalities such as HMR, diagnostics so that development environment will help to debug code. * slower than production mode * larger than production one * more readable * more developer friendly as code is readble and have all comments etc | * in this mode compression and minification of js and other resources happens to reduce size of the code which is not the case when it comes to development mode . * faster than developer mode because of minified code * because of minified and compressed code, removal of dead code size is smaller in production mode * not readable by developer because of minification * not developer friendly as it focused on decreasing size of code with effiency |

* **Async Vs Defer**

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| **parameter** | **Async** | **Defer** |
| * + execution   + syntax   + uage | * + it allows your script to run as soon as it’s loaded without blocking other elements on the page   + <script async src=”abc.js”></script>   + when its important to have the script run earlier in the loading procesws | * + it will excecute the script only after the page has finished loading   + <script defer src=”abc.js”></script>   + it is used for less critical resources like a vedio player which is below the fold |