**Bootcamp WE Task**

1. http1.1 vs http2

performance:

http1.1 is slow in receiving response and loading data when compared to http2

http2 is faster and more efficient in this aspect

request:

http1.1 allows only one outstanding request to load per TCP connection. It doesn’t work well for faster loading applications

http2 allows multiple requests per one TCP connection through a process called multiplexing for parallel requests

prioritization:

http1.1 loads data one after another which takes too much time to load large data

http2 loads data through prioritization which allows developers to decide which content to load first to improvise page loading

1. http version history

http(hyper text transfer protocol) was initiated by Tim Bernes-Lee at CERN at 1989 which was the foundation for world wide web(www).

http working group led by Dave Raggett wanted to expand protocol with extanded operations tied with security protocol which became more efficient with headers. This officially introduced as httpv1.0 in 1996.

Based on the developing RFC at that time caleed http-ng most browser developers adopted to http-ng in 1996 and new standards for http1.1 were released in jan 1997

In 2007 a new http working group was formed to revise and improve http1.1. In 2014 they released updated six-part specification. In 2015 http2 was published

1. Browser JS vs Node JS

Browser js executes in the client side

Node js is used on server side

Browser js can be used only in frontend

Node js can be used in front end as well as backend

Browser is not headless

Node js is headless

Browser js, moduling is not required

Node js, every code is kept inside a module

In Browser we cant choose what version of js to run

In Node js we can choose the versions of javascript as per our preference.

1. What happens when we type url in a web browser

When entering a url in a browser, it looks for the IP Address for domain name via DNS(Domain Name Server).

After DNS matches domain name with IP Address, browser sends an http request. Then the server returns an http response to the browser.

Then browser renders html and additional objects embedded in html like css, js.

It is then processed via rendering engine and displays the UI to the user.

1. Copy by value vs Copy by reference

In copy by value we are copying the value of one variable to another, so even if we modify value in one doesn’t impact the other.

For eg:

Var x = 5;

Var y = 10;

Var a = x;

Var b =y;

Now when we print x,y,a,b the value will be 5,10,5,10.

But now when we modify the values of a and b as

a = 1

b = 2

now if we print x,y,a,b the values will be 5,10,1,2.

Changing the values of a and b doesn’t affect x and y since only values are copied.

In Copy by reference variable that are assigned non primitive value are given a reference to that value. The reference points to objects location and not variables doesn’t contain the value.

For eg

Var arr1 = [1,2,3]

Var arr2 = arr1;

In this arr1 points to the location of [1,2,3] which is assigned to arr2

Now when we change the value

arr[2] = 0;

it changes the value present in that location where the reference points to, so the value in that location itself is changed.

Now when we print arr1 and arr2 both will contain [1,2,0], since both points to the same location.

1. Copy by value a composite data type

Using JSON parse and JSON string we can peform deep copy to do copy by value.

For eg

Var a = [1,2,3]

Var b = JSON.parse(JSON.stringfy(a));

By assigning like this, it takes javascript object and converts to json string.

Now when we modify any value in b, it wont have any effect in a.