1.Write a blog on Difference between HTTP1.1 vs HTTP2

Ans :

HTTP stands for HyperText Transfer Protocol. Helps us to view the websites on the Internet.

HTTP 1.1

* Released: 1997
* Released immediately after 1.0 (released on 1996) due to the internet revolution as more complex websites and searching engines getting built.
* Websites became more dynamic and heavy.
* Introduced CORS and Keep-Alive features to make client access to websites from the server faster.
* "Keep Alive" option to reuse TCP connections.
* Disadvantages of HTTP 1.1:
* For each request and response by client TCP were done with server which took time and also server response was slow.
* Approximately 6 TCPs were required, 1st for index.html, and wait for response from server,2nd for CSS, 3rd for JavaScript and vice versa.
* Browsers today use 6 parallel TCP connections, but it's still not enough due to huge websites (head-of-line blocking).
* Repeatition of Headers :
* Header file transmission is in plain text which is not secure ,and also leading to large space occupied as each request and response has it.
* We cannot compress header data.
* HTTP being stateless connection , independent of previous and next requests and that’s reason for huge header data => each request has header data.

HTTP/2

* Introduced in 2015.
* HTTPS is a must for HTTP/2 due to TLS setup.
* Differences from HTTP/1.1:
* HTTP/1.1 uses a plain text format, which is human-readable but can be verbose.
* HTTP/2 uses a binary protocol, more efficient for machines to process, and reduces transmitted data.
* Uses a single TCP connection, creating streams for each request. Faster, as it avoids creating many TCP connections (multiplexing).
* HPACK is used to avoid each request carrying header data, reducing the time of data delivery.
* Push: PUSH frames send CSS and JS responses when the user gives an index.html response, as it already knows what happens next.

2. Write a blog about objects and its internal representation in Javascript

JavaScript object represents real world objects with help of it’s properties.

Representing JavaScript object has many ways :

1.OBJECT LITERAL

As we mention all properties of object.

Properties represented in key value pair

Objects are non-primitive datatypes.

Consider we take Student as an object. A Student has many properties/attributes.

Syntax of empty object

let student = {};

console.log(typeof(student));

Output was "object" at terminal.

let student = {

Name : "Sam",

Course : "FSD",

Batch : 2024,

Percentage : 99.97,

isPresent : true

};

To print whole object

SYNTAX : console.log(student);

To access individual property of object :

We use Dot operator :

For eg: To get name from object

SYNTAX :

console.log(student.Name);

Another way to access properties is through Square Brackets []

For eg : to get Percentage property from object

SYNTAX :

console.log(student["Percentage"]);

("Double quotes for key is must when Square brackets method used").

We prefer dot operator mostly but we also have specific use cases for square bracket as well.

To iterate key value pairs in an object we need [ ] in, for- in loop

for(i in student){

console.log(i,student[i]);

}

And other cases like , if key value has gap in between them (previous school) or if we get input from user (student.userInput) , Dot operator cannot be used in the following cases.