Task 1
Do a write up for the followings:

1.**Difference between HTTP1.1 vs HTTP2**

HTTP 1.1:

- It is a stateless protocol i.e no information is retained.
- Required multiple server connections for multiple requests(each request had to be completed and only then next request was processed)
- It was developed at a time when the internet web pages were with fewer images and files and resources

HTTP 2

- Allows server-push of resources before the HTML document is completely parsed enabling lesser load time.
- Header data and Request Data are seperated (HPACK) allowing caching and resue of header data on repetitive requests.
- Enables Multiplexing, i.e more requests over same connection(each request was sent has multiple streams over the same connection).
- Push frames was also introduced which meant mandatory resources are sent in advance

2.HTTP version history

HTTP 0.9

- Year:1991.
- Basic Operations like GET,POST and HEAD.
- This version accessed only basic websites with multiple pages hyperlinked within.
- there were no HTTP headers, meaning that only HTML files could be transmitted, but no other type of documents.

HTTP 1

- Year:1996.
- More methods were allowed like PUT,DELETE,LINK,UNLINK.
- HTTP headers are introduced, enabling transfer of other documents
- Reusing of connection was Introduced, saving the time of reopening it numerous times to display the resources embedded into the single original document.

HTTP 1.1

- Year:1997
- Rapid update within a year from previous version due to websites becoming more dynamic and Heavy.
- More features were added like CORS, keep-alive.

HTTP 2.0

- Year:2015
- Multiplexing,Push frame, Server Push along with caching,minifying of CSS and JS,caching of data were all are introduced and practiced

3.List 5 differences between Browser JS vs Node Js.

Browser JS	NODE JS
● Runs in any Browser. ● Can only work on Frontend (client side). ● JavaScript running any engine like JavaScript Core (Safari), Spider monkey (FireFox), V8 (Google Chrome) ● JavaScript is a programming language	● Can run outside the browser. ● Allows programming of both Frontend and Backend. ● Runs only on google's V8 engine ● It is an interpreter and environment for JavaScript with some specific useful libraries which JavaScript programming can use separately. ● It is a runtime environment

4.what happens when you type a URL in the address bar in the browser?

1. Forward Lookup:Browser checks cache for DNS entry to find the corresponding IP address of website. If not present in cache, Internet Service Provider's DNS server initiates a DNS query to find IP address of server that hosts the domain name. These requests are sent as small data packets containing information content of request and IP address it is destined for.
2. Browser initiates a TCP connection with the server using synchronize(SYN) and acknowledge(ACK) messages.
3. Browser sends an http request to the web server through a GET or POST request.
4. Server on the host computer handles that request and sends back a response.
5. Server sends out an http response along with the status of response.
6. Finally the HTML Content is Displayed