**1.When a user enters an URL in the browser, how does the browser fetch the desired result ? Explain this with the below in mind and Demonstrate this by drawing a diagram for the same.(2-3hours)**

Ans: [URL](https://www.geeksforgeeks.org/url-full-form/) stands for Uniform Resource Locator. URL is the address of the website which you can find in the address bar of your web browser. It is a reference to a resource on the internet, be it images, hypertext pages, audio/video files, etc.

When a user enters a web URL in your browser and press Enter. Browser looks up IP address.

If the IP addres is accessible then the webpage is displayed else we get 404 HTTP error.

There are a few components involved in displaying data to the user i.e frontend, network and backend.

Frontend is written in HTML/CSS/Javascript. Angular/ReactJS could be used as a platform to write the HTML/CSS/Javascript . There are few browser engine like Google chrome, Safire etc designed to make meaning of the HTML document and display the HTML element to the user after applying aesthetic defined in CSS and Javascript.

Frontend interact with backend through HTML methods like GET, POST, PUT. Get is used to fetch data from the backend, Post is used to send data to the backend and PUT is used to modify a data.

Backend is used to render the data. Backend interacts with the database where the actual raw data is stored.

**a.What is the main functionality of the browser?**

-> The main functionality of a browser is to retrieve information from backend database and make it available to the user. This is done via a web browser.

A web browser is application software that is used to display the HTML element and interact with the backend.

**b.High Level Components of a browser.**

-> User interface or the UI that is used to display all the HTML tags

-> Browser engine such as Google chrome that is used to display th HTML element

-> Network. It is used to make a bridge between Browser engine and backend.

-> Backend. It is used to perform computation and store and retrive the information from a database.

**c.Rendering engine and its use.**

-> it is used to interact with the HTML element and provide a design to the user on which they could interact.

d.Parsers (HTML, CSS, etc)

HTML: HTML is the language for describing the structure of Web pages. HTML gives authors the means to: Publish online documents with headings, text, tables, lists, photos, etc. Retrieve online information via hypertext links, at the click of a button.

CSS: It is used to provide style to HTML. Style could be like Position, alignment, scroll etc

**e.Script Processors.**

-> it is used to define some logic that could be applied to a CSS. This could be used to define how a webpage will act when you change the resolution of a screen or click a webpage that insert some progress bar.

**f.Tree construction.**

-> No idea

**g.Order of script processing.**

Generally this is like a if else clause and define which logic will act if a condition is used. This could also be used to bypass a logic.

**h.Layout and Painting**

-> This is used to increase the asthetic of a webpage. There are HTML tags like img,div and css tags like border,color etc that could used to increase the asthetic of a web application.