Assignment For Day 1 

1)Explain the use of JavaScript (or What you can do using a JavaScript)

Ans :

- Javascript gives computerization activities or we can say logical behavior to simple web pages(HTML and CSS). e.g. When users submit the form on websites whether it is login form , signup form or payment form, a confirmation message or popup message appears on the screen reflecting the failure or success of the activity performed by the user. This functionality to the web pages can be provided by javascript by using **prompt() , confirm() , alert()** and so many in-built methods which are available in javascript. In addition to performing web page interactions, JavaScript can open PDFs, run widgets, and load web page content in the absence of a refresh

- Not only in frontend but Javascript can be also used to make highly scalable and efficient bakends with the help of Node.js
- Javascript can also be used in web automation.
- Javascript can be used to build mobile applications using React Native.
- Javascript is nowadays making its impression in blockchain development because lots of web3 enthusiasts are writing their smart contracts by using javascript as a primary language along with solidity , python , Golang, java etc.
- Javascript can also be used in web scraping as well as machine learning, data processing activities.

  Thus the use or scope of javascript in today's world is unstoppable and incredible.

2) What is the difference between client-side and server-side?

To put it one way, client-side are the actors and server-side developers are behind the scenes directing the actor and dealing with production matters. Because of the versatile nature of JavaScript, it is both a moving performer and a wonderful executive partner. That is, JavaScript functions well at the front-end and back-end sides of development. On the front-end, JavaScript works with the likes of HTML and CSS to optimize web pages for use.

At the back-end, JavaScript positions Node.js to manage data and handle user requests.

Whichever way, JavaScript is a powerful language. Full-stack JavaScript describes examples of JavaScript being maneuvered at both ends of development.

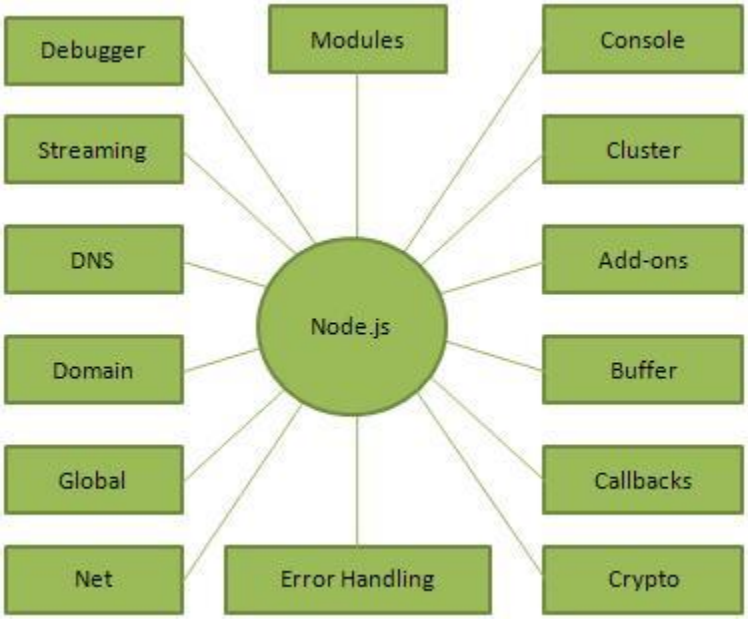
In simple terms client-side means what the user sees on the screen whereas the server-side means how the data is communicated from client-machine to server through API request and server fulfills this request with the resources.

3) What is Nodejs?

Node.js provides a runtime environment for the javascript program to execute outside the particular browser.

Node.js is an open source, cross-platform runtime environment for developing server-side and networking applications.

NodeJs Provides following features :



4) Explain Scope in JavaScript

“ Scope manages the availability of the variable in the javascript program execution “

Javascript has 3 types of Scope :

- Block Scope
- Function Scope
- Global Scope

Block and Global Scope : Consider following code

```
// Block scope

// Global scope of variable x

let x = 3; {

    // Block scope of variable x

    let x = 2;

    console.log(x);

}

// Global value of x will be printed

console.log(x);
```

Output :

2

3

Function Scope : Consider an example of printing name on console

```
let name = "Gulam Ansari";



function getName() {

    console.log(name);

}

getName();
```

Output: Gulam Ansari

Another example :

```
let name = "Gulam Ansari";



function getName() {

    let name = "Mohd Gulam";

    console.log(name);

}

getName();
```

Output : Mohd Gulam

5) JavaScript is asynchronous or synchronous.

At its core, JavaScript is by default Synchronous in nature. It is Synchronous because it is Single-threaded. In single-thread one operation is executed at a time.

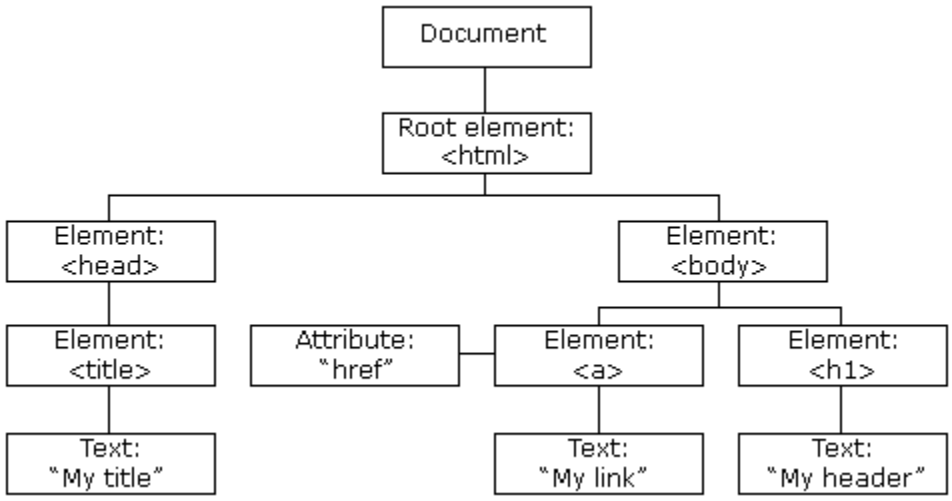
6) JavaScript is Single-threaded or Multi-threaded.

"Javascript is single threaded Language"

7) Explain DOM in your own word.

DOM stands for Document Object Model. In layman terms how the HTML element object is parsed in tree-like object structure. With DOM manipulation techniques available in javascript we can change , create , delete , alter any HTML element in DOM.

An example of DOM is as follows :



Thank you.