# **Assignment For Day 1smiling face with smiling eyesrocket**

**1. Explain the use of JavaScript (or What you can do using JavaScript)**  
**Answer :** JavaScript is a programming language used to make websites interactive. With JavaScript, you can do things like show or hide content, validate forms, create animations, handle user actions (like clicks), update web pages without refreshing, and much more. It's mainly used in web development to make pages dynamic and responsive.

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

**Answer :**

* **Client-side** means the code runs in the user's browser (like animations, form validation).
* **Server-side** means the code runs on the server where the website is hosted (like saving data to a database or handling user login).  
  In short, client-side is what the user sees and interacts with, and server-side is where the behind-the-scenes logic happens.

1. **What is Node.js?**

**Answer :** Node.js is a tool that lets you run JavaScript outside of the browser, usually on a server. It helps developers build fast and scalable web applications. You can use Node.js to create backend services like APIs, manage databases, and build full-stack applications using JavaScript.

**4. Explain Scope in JavaScript**  
**Answer :** Scope in JavaScript means the area where a variable or function is available or can be used. There are mainly two types:

* **Global Scope**: The variable is accessible everywhere in the code.
* **Local Scope**: The variable is only available inside a function or block where it's defined.

**5. JavaScript is asynchronous or synchronous.**  
**Answer :** JavaScript is **synchronous by default**, meaning it runs one task at a time in order. But it also **supports asynchronous operations** (like setTimeout, promises, async/await) so it can handle tasks like API calls or file loading without waiting and freezing the whole program.

**6. JavaScript is Single-threaded or Multi-threaded.**  
**Answer :** JavaScript is **single-threaded**, meaning it runs one task at a time. But with features like **event loops** and **asynchronous code**, it can handle multiple tasks efficiently without blocking the main thread.

**7. Explain DOM in your own words.**  
**Answer :** DOM (Document Object Model) is like a tree structure that represents all the elements of a web page (like headings, paragraphs, buttons). JavaScript can use the DOM to change content, styles, or structure of a webpage while it’s open in the browser.