JavaScript is a programming language that allows developers to create interactive web pages.

* **What it does**

JavaScript is used to add interactivity to web pages, such as refreshing social media feeds, displaying animations, and creating interactive maps.

* **How it works**

JavaScript is a client-side scripting language, which means that the script is downloaded to the visitor's machine and processed there.

* **What it's used for**

JavaScript is used in many non-browser environments, such as Node.js, Apache CouchDB, and Adobe Acrobat. It can also be used in virtual reality and artificial intelligence applications.

* **Features**

JavaScript is a multi-paradigm, dynamic language that supports object-oriented, imperative, and declarative styles. It has a syntax based on the Java and C languages.

* **How to use it**

JavaScript is order-sensitive, so you should reference objects or variables within a block of code before modifying them.

* **What is JRE and its use?**

The Java Runtime Environment, or JRE, is a software layer that runs on top of a computer's operating system software and provides the class libraries and other resources that a specific Java program requires to run. The JRE is one of three interrelated components for developing and running Java programs.

* **What is BRE in js?**

The business rules engine is essentially a decision-making program that can automate what should happen in the next stage of the workflow or business process. It takes data as input from other applications and generates output based on the pre-defined business rules.

* **What is NRE in js?**

js (Node) is an Open Source, cross-platform runtime environment for executing JavaScript code. Node is used extensively for server-side programming, making it possible for developers to use JavaScript for client-side and server-side code without needing to learn an additional language.

* **What is a variable in JavaScript example?**

Variables are named values and can store any type of JavaScript value. var x = 100; And here's what's happening in the example above: var is the keyword that tells JavaScript you're declaring a variable.

**What are data-types in js?**

Each value in a JavaScript program is associated with a data type. A data type specifies the type of data Number, String, Boolean, Double, etc. Each data type requires different amounts of memory and has some specific operations which can be performed over it. The data types in JavaScript can be categorized into two types.

**Primitive Data Type**

The predefined data types provided by JavaScript language are known as primitive data types. Primitive data types are also known as in-built data types.

Types : Number , String , Boolean , Null , Undefined .

**Non-Primitive Data Types**

The data types that are derived from primitive data types are known as non-primitive data types. It is also known as derived data types or reference data types.

Object :  It is the most important data type and forms the building blocks for modern JavaScript. We will learn about these data types in detail in further articles.

* **Stack memory**

Memory stack in java-script is an important programming tool. Memory stack can be visualized as a stack of objects on which we can push and pop values. JavaScript execution engine does not actually follow a stack-based approach to function calls at runtime.

* **Heap memory**

The Heap is used for dynamic memory allocation, where objects and arrays (non-primitive types) are stored. Unlike the Stack, the Heap is more complex and slower to access, as it allows for flexible memory allocation.

* **Garbage collection**

Garbage collection (GC) is a memory recovery feature built into programming languages such as C# and Java. A GC-enabled programming language includes one or more garbage collectors (GC engines) that automatically free up memory space that has been allocated to objects no longer needed by the program.

* **Working flow of java-script**

JavaScript is a client-side scripting language that works in a browser to run code line by line. Here are some things to know about how JavaScript works:

* **Execution context**

When a browser encounters JavaScript code, it creates an execution context to handle the code. There are two types of execution contexts:

* + Global Execution Context (GEC): Created when a JavaScript program starts running. This is the foundation for all other contexts.
  + Function Execution Context (FEC): Created when a function is called. This is the active context while the function is running.
* **Call stack**

JavaScript is single-threaded, meaning it has a single call stack. The call stack records where in the program the code is. When a function is called, it is put on top of the stack. When a function returns, the top of the stack is removed.

* **Asynchronous programming**

JavaScript supports asynchronous programming, which allows operations like reading files, making HTTP requests, or querying databases to run in the background.

* **Dynamic typing**

JavaScript is a loosely typed language, so you don't need to declare a variable's type ahead of time.

* **Object-oriented programming**

JavaScript is an object-oriented programming language that uses prototypes for inheritance.

JS -> Parse -> Abstract Syntax Tree -> Interpeter -> Compiler -> Machine code -> Byte code