JavaScript Foundation

JavaScript is a dynamic programming language that's used for web development, in web applications, for game development, and lots more.

Features of Javascript:

- javascript is Interpreted Language not a Compiled language.
 compiler language - C/c++ ,java ..golang etc.
- compiler compile the code at once but interpreter compile line by line
- browser can only understand HTML/CSS/JS thanks to node.js ,js can also used for "Backend development"
- JavaScript is dynamic language during runtime it to change data type of your variable but its not good i.e. typescript comes in this case
- single threaded nature of JavaScript: it compile code single line by line.

Simple Primitives:

String:-

A string is a sequence of characters enclosed within single (' ') or double (" ") quotes

Number:-

Numbers in JavaScript can be integers or floating-point numbers. They can be positive, negative, or zero.

Boolean:-

Boolean: A boolean represents one of two values: true or false. Booleans are typically used for logical operations and comparisons.

```
// Number
let age = 25;
let temperature = -10.5;

// Boolean
let isLoggedin = true;
let isAdult = false;

// Example usage
console.log(greeting); // Output: Hello, world!
console.log("My name is " + name); // Output: My name is John
console.log("I am " + age + " years old"); // Output: I am 25 years old
console.log("The temperature is " + temperature + " degrees Celsius"); // Output: The
console.log("Am I logged in? " + isLoggedin); // Output: Am I logged in? true
console.log("Am I an adult? " + isAdult); // Output: Am I an adult? false
```

Complex Primitives:-

Arrays:

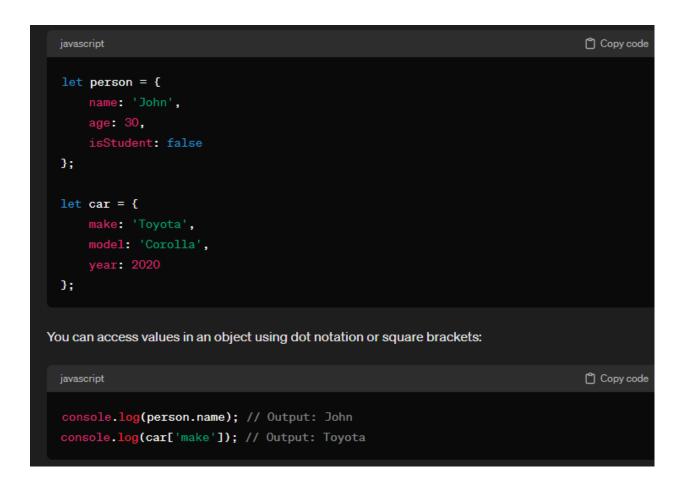
Arrays are ordered collections of values. Each value in an array is identified by an index, starting from 0.

Arrays have built-in methods like push, pop, shift, unshift, slice, etc., for manipulation.



Objects:

Objects: Objects are collections of key-value pairs. Keys are strings (or Symbols) and values can be any data type.



function:

- abstract out logic in your program
- take argument as input and return as output functions can take other function as input callback

Function Parameters:

Functions can take zero or more parameters. Parameters are placeholders for values that will be passed to the function when it's called.

```
javascript

function add(a, b) {
   return a + b;
}

console.log(add(2, 3)); // Output: 5
```

Return Statement:

Functions can return a value using the 'return' statement. When a function encounters a 'return' statement, it immediately exits, and the value after 'return' is returned to the caller.

```
javascript

function multiply(a, b) {
   return a * b;
}

let result = multiply(4, 5);
console.log(result); // Output: 20
```

What is Web API?

API stands for Application Programming Interface.

A Web API is an application programming interface for the Web.

A Browser API can extend the functionality of a web browser.

A Server API can extend the functionality of a web server.

For ex- Fetch(),setTimout(),setTimein() etc...