Language Map for JavaScript

Variable Declaration
Is this language strongly typed or dynamically typed? Provide at least three examples (with different data types or keywords) of how variables are declared in this language.
	JavaScript is dynamically typed. The types of declared variables are determined at runtime.
	
	let count = 0;
	const active_status = false;
	var name = 'John';

Data Types *List all of the data types (and ranges) supported by this language.*	String – character sequence Boolean (true/false) Object – key/value pairs in brackets {} Array (not a fixed size) – [] Null – No value (intentional) Undefined – Undefined / uninitialized value (unintentional) BigInt – Very large integers Number – Integers and floating-point values Symbol – Individual unique identifiers for object properties (immutable)

Selection Structures
Provide examples of all selection structures supported by this language (if, if else, etc.) ***Don't just list them, show code samples of how each would look in a real program.***
	if-else:
	if (condition){
	  code
	} else / else-if (condition) {
	  code
	}
	
	ternary operator:
	condition is truthy ? do this : else do this
	
	switch statement:
	let count = 1;
	switch (count){
	case 1:
	  code;
	  break;
	case 2:
	  code;
	  break;
	default:
	  code;
	}

Repetition Structures
Provide examples of all repetition structures supported by this language (loops, etc.) ***Don't just list them, show code samples of how each would look in a real program.***
	for loop:
	for (let i = 0; i < 10; i++) {
	  console.log(i);
	}
	
	while loop:
	let i = 0;
	while (i < 10) {
	  console.log(i);
	  i++;
	}
	
	do-while loop:
	let i = 0;
	do {
	  console.log(i);
	  i++;
	} while (i < 15);
	
	for-of loop (arrays):
	
	for (let item of list){
	  do something;
	}
	
	for-in loop (loop object properties (keys)):
	
	for (let key in object){
	  do something with object[key];
	}

Arrays *If this language supports arrays, provide at least two examples of creating an array with a primitive or String data types (e.g. float, int, String, etc.)*	let nums = [1, 2, 3, 4, 5]; let names = ['John', 'Anna', 'Rose'];
Data Structures *If this language provides a standard set of data structures, provide a list of the data structures and their Big-Oh complexity.*	**Arrays**: Indexed lists that can hold multiple values of any type (access: O(1), insertion/removal at end: O(1), at beginning: O(n) due to shifting of values). **Objects**: Key-value pairs used for storing data with unique keys that must always be strings (access and insertion: O(1) due to hashing). **Set**: A collection of **unique** values (O(1) for insertion and access).

	Map: A collection of key-value pairs where keys can be any type (O(1) for insertion and access).

Objects
If this language support object-orientation, provide an example of how you would write a simple object with a default constructor and then how you would instantiate it.
	class Animal {
	constructor (species, age) {
	this.species = species;
	this.age = age;
	}
	}
	const dog1 = new Animal(Dog, 4);
	console.log(dog1.age); // 4

Runtime Environment *What runtime environment does this language compile to? For example, Java compiles to the Java Virtual Machine.* *Do other languages also compile to this runtime?*	JavaScript runs in the browser. It can also be run outside the browser on the server-side using Node.js. TypeScript (JavaScript with types) also runs in the browser.
Libraries/Frameworks *What are the popular libraries or frameworks used by programmers for this language? List at least three (3) and describe what they are used for..*	React – A prominent front-end framework for developing web applications Vue.js – A prominent front-end framework for developing web applications Node.js – A runtime environment for JavaScript, allows you to run JavaScript outside the browser Express – A framework/library for Node.js for building servers more quickly with JavaScript
Domains *What industries or domains use this programming language? Provide specific examples of companies that use this language and what they use it for**. E.g. Company X uses C# for its line of business applications.***	It is primarily used for web-development, both frontend and backend. Companies like Netflix, Chess.com, Lyft, Facebook, and many others use JavaScript and TypeScript for their web products.