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.*	C# is a strongly typed language. Variables are declared with specific data types. Examples: int number; string name; float price;
Data Types *List all of the data types (and ranges) supported by this language.*	C# supports the following data types: - int: 32-bit signed integer - long: 64-bit signed integer - float: 32-bit floating-point - double: 64-bit floating-point - char: 16-bit Unicode character - string: Sequence of characters - bool: Represents true or false

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.***
	Examples:
	if statement:
	if (condition) { // code }
	if-else statement:
	if (condition) { // code } else { // code }
	switch statement:
	switch (variable) { case value: // 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.***
	Examples:
	for loop:
	for (int i = 0; i < 10; i++) { // code }
	while loop:
	while (condition) { // code }
	do-while loop:
	do { // code } while (condition);

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.) If the language supports declaring arrays in multiple ways, provide an example of way.*	Examples: **Declaring an array**: int[] numbers = new int[5]; **Initializing an array**: string[] names = { "Alice", "Bob", "Charlie" }; **Multidimensional array**: int[,] matrix = new int[3, 3];
Data Structures *If this language provides a standard set of data structures, provide a list of the data structures and*	Standard data structures include: - **Array**: O(1) for access - **List<T>**: O(1) for access, O(n) for search

their Big-Oh complexity (identify what the complexity represents).	- **Dictionary<TKey, TValue>**: O(1) for access - **Queue<T>**: O(1) for enqueue and dequeue - **Stack<T>**: O(1) for push and pop
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.*	Example of a simple object with a default constructor: class Person { public string Name; public int Age; public Person() { } } **Instantiating an object**: Person person = new Person();
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? If so, what these other languages?*	C# compiles to the **Common Language Runtime (CLR)**. Other languages that compile to CLR include F# and VB.NET.
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.*	Popular libraries/frameworks: - **.NET Framework**: For building Windows applications. - **ASP.NET**: For building web applications. - **Entity Framework**: For database operations using object-relational mapping.
Domains *What industries or domains use this programming language? Provide at least three 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.***	Industries using C#: - **Finance**: Companies like JPMorgan Chase use C# for trading systems. - **Gaming**: Companies like Microsoft (Xbox) use C# for game development in Unity. - **Healthcare**: Companies like Epic Systems use C# for electronic health record systems.