

## Language Map for JavaScript

<b>Variable Declaration</b> <i>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.</i>	C# is a strongly typed language.  string name = "Isaiah"; Console.WriteLine(name);  int myNum = 23; Console.WriteLine(myNum)  bool myBool = true
<b>Data Types</b> <i>List all of the data types (and ranges) supported by this language.</i>	int long float double bool char string
<b>Selection Structures</b> <i>Provide examples of all selection structures supported by this language (if, if else, etc.) <b>Don't just list them, show code samples of how each would look in a real program.</b></i>	if if (19>3) { Console.WriteLine("19 is greater than 3") }  else int myNum = 15; if(myNum < 3); } Console.WriteLine("Hello World"); { else { Console.WriteLine("Bye World"); } }  else if  int myNum = 15; if(myNum < 3); }

	<pre> Console.WriteLine("Hello World"); { else if (myNum &gt; 16) } Console.WriteLine("Hi World"); { else { Console.WriteLine("Bye World"); }  switch (basketball positions) { case 1: Console.WriteLine("Point Guard"); break; case 2: Console.WriteLine("Shooting Guard"); break; case 3: Console.WriteLine("Small Forward"); break; case 4: Console.WriteLine("Power Forward"); break; case 5: Console.WriteLine("Center"); break; } </pre>
<b>Repetition Structures</b> <i>Provide examples of all repetition structures supported by this language (loops, etc.) <b>Don't just list them,</b></i>	<pre> For loop for (int i = 10; i &gt; 0; i++) { (int i = 10; i &gt; 0; i++) </pre>

<p><i>show code samples of how each would look in a real program.</i></p>	<pre> } While loop int i = 0; while (i &lt;10) { while (i &lt;10) i--; } </pre>
<p><b>Arrays</b>  <i>If this language supports arrays, provide <b>at least two examples</b> 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.</i></p>	<pre> string [] baseball teams {“Dodgers”, “Yankees”, “Red Sox”}  int[] myNum {9,1,3,5,6,7} </pre>
<p><b>Data Structures</b>  <i>If this language provides a standard set of data structures, provide a list of the data structures and their Big-Oh complexity (identify what the complexity represents).</i></p>	<pre> Add/Insert List-O(1) to add, O(n) to insert LinkedList-O(1), before/after given node Stack-O(1) Queue-O(1) Dictionary-O(1), O(n) if collision HashSet-O(1), O(n) if collision SortedDictionary-O(log n) SortedList- O(n), O(log n) if added to the end of list SortedSet- O(log n) </pre>
<p><b>Objects</b>  <i>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.</i></p>	<pre> C# is an object oriented language  public class Dog {     public int age;     public string name; }  class TestDog{     static void Main( ) {  Dog d = new Dog( ); Console.WriteLine(“Name: {Dogmeat}, Age {5}”, d.name, d.age); } </pre>

	}
<b>Runtime Environment</b> <i>What runtime environment does this language compile to? For example, Java compiles to the Java Virtual Machine.</i> <i>Do other languages also compile to this runtime? If so, what these other languages?</i>	Common Language Runtime (CLR) which is also used by VB.NET,F#, and Visual Studios C++
<b>Libraries/Frameworks</b> <i>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.</i>	Entity Framework Core- Allows people to work with databases using C# objects instead of SQL queries. Iron C# Library Suite- Offers tools for PDF manipulation or extracted text from various documents. .NET framework/.NET Core/.Net 5:- Foundational framework for C# that offers development on window, macOS and linux. Has modern supports C#
<b>Domains</b> <i>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.</i>	Microsoft uses C# for game development. City National Bank uses it for cloud based applications ServiceTitan uses C# to develop web and android based application to help with HVAC and plumbing services