Homework 1

Question #1.1:

1. Give an example of a lexical error, detected by the scanner.

* Ex: 9var 🡨 when trying to name a variable by starting it with a digit in Java, a lexical error occurs.

1. Give an example of a syntax error, detected by the parser.

* Ex: Int num = 9 🡨 When attempting to initialize an int variable in Java and capitalizing the I in “int”, a syntax error occurs.

1. Give an example of a static semantic error, detected by symantic analysis.

* Ex: int x = 1, x = y+x; 🡨 Because y has not yet been declared or initialized (in Java), a static semantic error will be thrown at compile time.

1. Give an example of a dynamic semantic error, detected by code generated by the compiler.

* Ex: int[] arr = new int[10], for (int i = 0; i <= 10; i++) arr[i] = I; 🡨 Assuming this is in Java, because on the 11th iteration of the for loop the program attempts to access an index out of bounds of array arr, a dynamic semantic error occurs.

Question #1.15: How would you characterize Microsoft’s decision to pursue an alternative to Java?

I do not believe that C# was developed to undermine the spread of Java so much as it was developed to provide the functionality of Java in a new framework that has since diverged from its close ties with Java and has found a voice of its own, as it were. Nowadays, C# provides some functionalities that Java lacks, and vice versa, thus lending to the idea that C# was less of a strategic business move (though it most certainly was) and more of the exploitation of creative differences between the two.