## **Compound Assignment, Increment/Decrement operators**

**The goal for this exercise** is to understand how to use the various compound assignment operators, and very common, but somewhat tricky, increment and decrement operators.

It is the instructor's opinion that many language features that exist in the C-derived family of programming languages (C, C++, Java, C#, JavaScript, etc, etc) exist because programmers hate to type. The compound assignment operators is one example of this, the increment/decrement operators are another example. For all of these types of operators, they don't really allow you to do anything new, but they do reduce the amount of typing that you'll need to do. For example, instead of writing

|  |
| --- |
| int num = 1;  num **=** num **+ 10**; |

you can write

|  |
| --- |
| int num = 1;  num **+= 10**; |

Similarly, instead of

|  |
| --- |
| int num = 1;  num **+= 1**; |

you can write

|  |
| --- |
| int num = 1;  num**++**; |

For this exercise, you need to be familiar with all the following compound assignment operators:

**+=   -=   \*=   /=    %=**

**What you need to do for this exercise:**

1. In the provided starter project, in the Compound\_Operators. RunExercise method, write some code that demonstrates the usage of each of the above operators. The code doesn't have to be any more complicated than the examples given in this document, for +=.
2. Also you should understand ++ and --, and in particular, you should know the difference between the 'prefix' and 'postfix' behavior. You should include (in a comment in your C# code) clearly explaining (A) what the output of each of the following code snippets is, and (more importantly) (B) **why** the behavior of ++/-- causes the output to be different.

|  |
| --- |
| int num = 0;  // ++ before num is 'prefix'  while (++num < 10)  Console.WriteLine("Num: {0}", num);  num = 0;  // ++ after num is 'postfix'  while (num++ < 10)  Console.WriteLine("Num: {0}", num);  num = 10;  // -- before num is 'prefix'  while (--num > 0)  Console.WriteLine("Num: {0}", num);  num = 10;  // -- after num is 'postfix'  while (num-- > 0)  Console.WriteLine("Num: {0}", num); |

(feel free to simply paste the above code into the provided Increment\_Decrement. RunExercise method, and then put your answers, in comments, in-line)