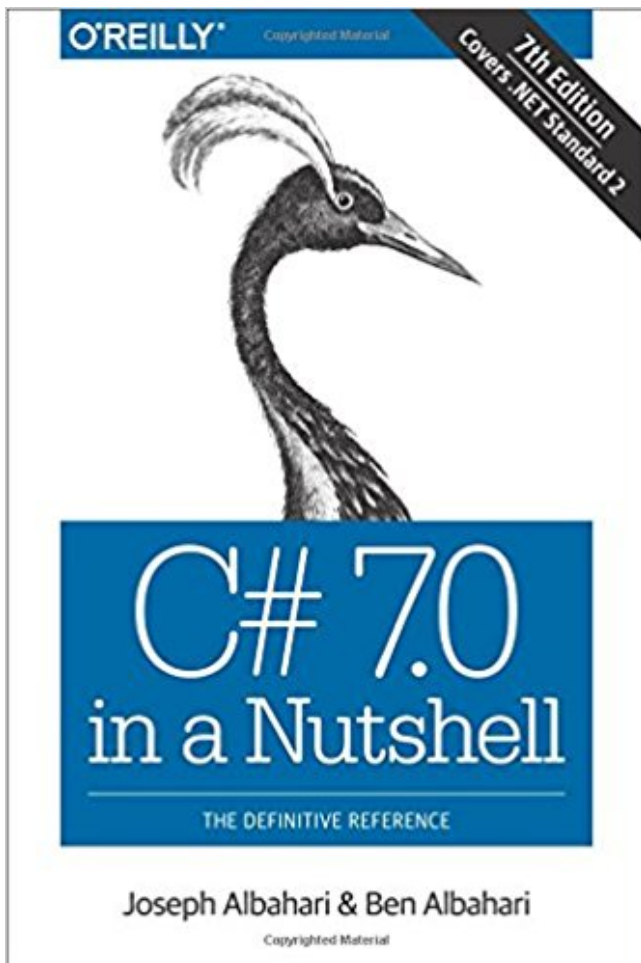# [1000] Changing Gears

Up until now, we have been learning the basics of C# and OO programming. In a way, we have been moving fairly quickly through the content of our textbook.

Now we are going to change gears and move from the **theory** of C# and OO programming into the **application** of the techniques we have learned. This will give everyone a chance to solidify their C# skills and become more comfortable with all of the concepts we have learned so far in this class.

New (Free) Textbook!

We are going to start by changing textbooks. While the Apress textbook we've used so far still has many (many) more pages in it, most of those pages cover topics that we will not be using for the remainder of this class. (I invite you to continue browsing the remaining chapters whenever you have time.) And while the Apress book has done a good job of introducing us to various C# concepts, I want you to see how those same concepts can be presented in other ways that may be more understandable and can serve as a good reference for you in the future.

Say hello to your new textbook!

(Don't worry, it's free.)

Click here to download it: **Csharp_7dot0_in_a_Nutshell.pdf**
(https://lwtech.instructure.com/courses/1841516/files/122992670/download?wrap=1)

For more than a decade now, programmers who want to really learn a programming language or tool have used the O'Reilly books to do so. They are (usually) the best.

During the next couple of weeks, we will be reading this new book from the begining - but the good news is that much of this material, you are already familiar with and so the reading should go quickly. By re-reading this material in a new form, you should get the following benefits:

- Seeing old material in a new format should help C# stick in your head better.
- The O'Reilly book is better organized than the Apress book which should help you draw better connections between the different parts of C#
- The code example in the O'Reilly book are clearer and better presented.
- The O'Reilly book can be used as a reference book for C# after the class is over.
- The O'Reilly book covers C# 7.0 - a newer version of C#.

Application-Focused Lessons

From this point forward, we'll be using programming projects to drive the class. There will be fewer new concepts introduced and more focus on writing programs. This is in line with my belief that the best way to learn programming is to program.

Over the rest of the course, we'll be working on applications such as:

- Conway's Game of Life
- Server Log Parsing and Reporting
- Collection Sorting Techniques
- Spreadsheet File Generation
- LINQ-based Programming
- Internet File Processing
- JSON-based Data Feeds
- Live Aircraft Tracking
- Using Third-Party Libraries
- Earthquake Mapping
- Database Access Examples
- Windows Presentation Foundation Programs

and the proverbial "much, much, more!"

Let's get started with...