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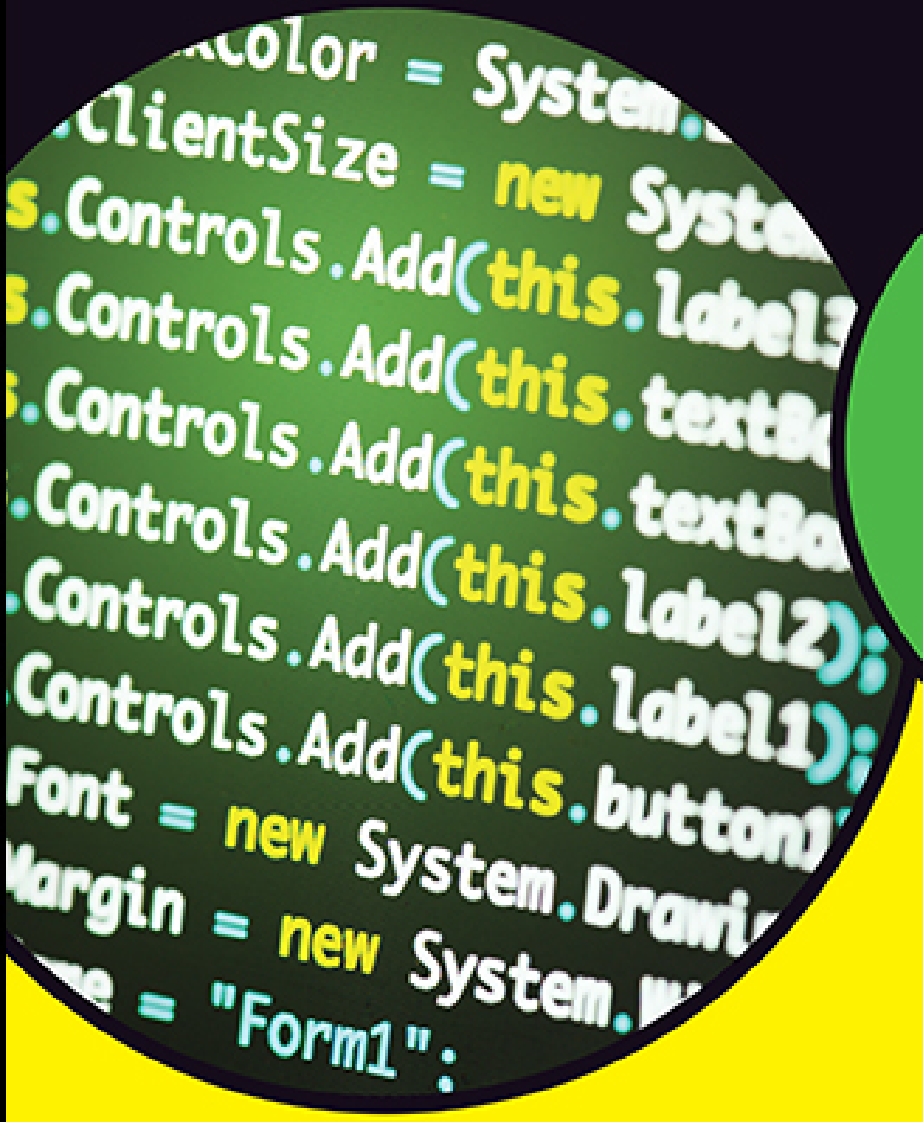

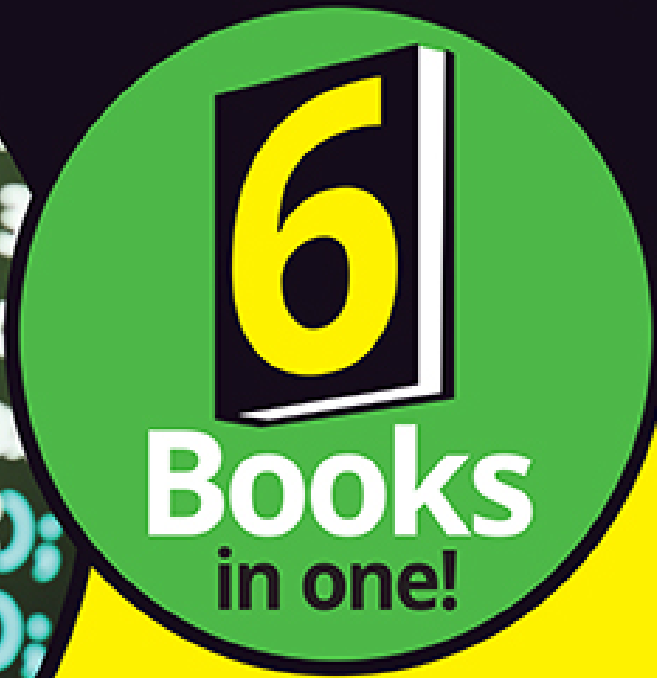

John Paul Mueller

Has used C# to create a vacation countdown timer

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by John Paul Mueller

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Introduction

C# is an amazing language that is currently ranked the fifth most popular language in the world, according to the Tiobe Index (https://www.tiobe.com/tiobe-index/)! You can use this single language to do everything from desktop development to creating web applications and even web-based application programming interfaces (APIs). In addition, C# now makes it possible to target a multitude of platforms, including macOS and Linux. While other developers have to overcome deficiencies in their languages to create even a subset of the application types that C# supports with aplomb, you can be coding your application, testing, and then sitting on the beach enjoying the fruits of your efforts. Of course, any language that does this much requires a bit of explanation, and *C# 10.0 All-in-One For Dummies* is your doorway to this new adventure in development.

So, why do you need *C# 10.0 All-in-One For Dummies* specifically? This book stresses learning the basics of the C# language before you do anything else. With this in mind, the book begins with all the C# basics in Books 1 through 3, helps you get Visual Studio 2022 installed in Book 4, and then takes you through more advanced development tasks, including basic web development, in Books 5 through 6. Using this book helps you get the most you can from C# 10.0 in the least possible time.

About This Book

Even if you have past experience with C#, the new features in C# 10.0 will have you producing feature-rich applications in an even shorter time than you may have before. *C# 10.0 All-in-One For Dummies* introduces you

to all these new features. For example, you discover how to work with both Universal Windows Platform (UWP) and Windows 10 and above applications (besides using all the old standbys). You also find all the new features provided for object-oriented development, and new IDE features designed to make your development experience easier. Make sure you don't miss out on the new `Record` type discussed in Book 2, Chapter 11. This book is designed to make using C# 10.0 fast and easy; it removes the complexity that you may have experienced when trying to learn about these topics online.

To help you absorb the concepts, this book uses the following conventions:

- Text that you're meant to type just as it appears in the book is in **bold**. The exception is when you're working through a step list: Because each step is bold, the text to type is not bold.
- Words for you to type that are also in *italics* are meant as placeholders; you need to replace them with something that works for you. For example, if you see "Type ***Your Name*** and press Enter," you need to replace *Your Name* with your actual name.
- I also use *italics* for terms I define. This means that you don't have to rely on other sources to provide the definitions you need.
- Web addresses and programming code appear in `monofont`. If you're reading a digital version of this book on a device connected to the Internet, you can click the live link to visit a website, like this: `www.dummies.com`.
- When you need to click command sequences, you see them separated by a special arrow, like this: File ⇒ New File, which tells you to click File and then click New File.

Foolish Assumptions

You might have a hard time believing that I've assumed anything about you — after all, I haven't even met you yet! Although most assumptions are indeed foolish, I made certain assumptions to provide a starting point for the book.

The most important assumption is that you know how to use Windows, have a copy of Windows properly installed, and are familiar with using Windows applications. Even though this book covers developing applications that run on multiple platforms, the development environment always assumes that you're working with Windows. If installing an application is still a mystery to you, you might find this book a bit hard to use. While reading this book, you need to install applications, discover how to use them, and create simple applications of your own.

You also need to know how to work with the Internet. Many of the materials, including the downloadable source, appear online, and you need to download them in order to get the maximum value from the book. In addition, Book 6 assumes that you have a certain knowledge of the Internet when working through web-based applications and web-based services.

Icons Used in This Book

As you read this book, you encounter icons in the margins that indicate material of special interest (or not, as the case may be!). Here's what the icons mean:

TIP Tips are nice because they help you save time or perform some task without a lot of extra work. The tips in this book are time-saving techniques or pointers to resources that you should try so that you can get the maximum benefit when performing C#-related tasks.

WARNING I don’t want to sound like an angry parent or some kind of maniac, but you should avoid doing anything that’s marked with a Warning icon. Otherwise, you might find that your configuration fails to work as expected, you get incorrect results from seemingly bulletproof processes, or (in the worst-case scenario) you lose data.

TECHNICAL STUFF Whenever you see this icon, think advanced tip or technique. You might find these tidbits of useful information just too boring for words, or they could contain the solution you need to get a C# application running. Skip these bits of information whenever you like.

REMEMBER If you don’t get anything else out of a particular chapter or section, remember the material marked by this icon. This text usually contains an essential process or a bit of information that you must know to work with C#.

Beyond the Book

This book isn't the end of your C# learning experience — it's really just the beginning. I provide online content to make this book more flexible and better able to meet your needs. Also, you can send me e-mail at John@JohnMuellerBooks.com. I'll address your book-specific questions and tell you how updates to C# or its associated add-ons affect book content through blog posts. Here are some cool online additions to this book:

- **Cheat sheet:** You remember using crib notes in school to make a better mark on a test, don't you? You do? Well, a cheat sheet is sort of like that. It provides you with some special notes about tasks that you can do with C# that not every other person knows. To find the cheat sheet for this book, go to www.dummies.com and search for *C# 10.0 All-in-One For Dummies Cheat Sheet.* It contains really neat information such as how to figure out which template you want to use.
- **Updates:** Sometimes changes happen. For example, I might not have seen an upcoming change when I looked into my crystal ball during the writing of this book. In the past, this possibility simply meant that the book became outdated and less useful, but you can now find updates to the book at www.dummies.com.

  In addition to these updates, check out the blog posts with answers to reader questions and demonstrations of useful book-related techniques at http://blog.johnmuellerbooks.com/.
- **Companion files:** Hey! Who really wants to type all the code in the book manually? Most readers prefer to spend their time actually working with C#, creating amazing new applications that change the world, and

seeing the interesting things they can do, rather than typing. Fortunately for you, the examples used in the book are available for download, so all you need to do is read the book to learn C# development techniques. You can find these files at www.dummies.com and at http://www.johnmuellerbooks.com/source-code/.

Where to Go from Here

Anyone who is unfamiliar with C# should start with Book 1, Chapter 1 and move from there to the end of the book. This book is designed to make it easy for you to discover the benefits of using C# from the outset. Later, after you've seen enough C# code, you can install Visual Studio and then try the programming examples found in the first three minibooks. (Note that Book 1, Chapter 1 provides a brief overview of using Jupyter Notebook instead of Visual Studio 2022, but many of the new examples won't work with this setup.)

This book assumes that you want to see C# code from the outset. However, if you want to interact with that code, you really need to have a copy of Visual Studio 2022 installed. (Some examples will not work at all with older Visual Studio versions.) With this in mind, you may want to skip right to Book 4 to discover how to get your own copy of Visual Studio 2022. To help ensure that everyone can participate, this book focuses on the features offered by Visual Studio 2022 Community Edition, which is a free download. That's right, you can discover the wonders of C# 10.0 without paying a dime!

The more you know about C#, the later you can start in the book. If all you're really interested in is an update of your existing skills, check out Book 1, Chapter 1 to discover the changes in C#. Then, scan the first three

minibooks looking for points of interest. Install C# by using the instructions in Book 4, Chapter 1, and then move on toward the advanced techniques found in later chapters. You definitely don’t want to miss out on the Windows 10 and above development topics in Book 5, Chapter 5. In addition, Book 6 is entirely new for this edition, so even if you saw the previous edition of the book, you don’t want to miss out on this new content.

Book 1

The Basics of C# Programming

Contents at a Glance