Frequently Asked Questions (FAQs) for Murach's C# 2015

How does SQL Server 2016 affect this book?

When Visual Studio 2015 was originally released, it came with SQL Server 2014 Express LocalDB. However, Update 2 and later of Visual Studio come with SQL Server 2016 Express LocalDB. Fortunately, you can use the database we provide with this server. If you’re using Windows 8 or later, you can also install and use SQL Server 2016 Express using the same techniques you use with SQL Server 2014 Express.

How does Visual Studio 2017 affect this book?

You can use this book with Visual Studio 2017 without any problems. The interface looks the same as in Visual Studio 2015, so you’ll be able to find and use all of the functions that are covered in this book.

Having said that, if you do decide to use Visual Studio 2017, there are some new features you may want to be aware of.

New Visual Studio 2017 features

To start, Visual Studio 2017 provides a new setup experience that makes it easier to install just the features that you want. It also starts faster, is more responsive, and uses less memory than Visual Studio 2015.

In addition, as you work with the Visual Studio IDE, you may notice some new or enhanced features that you want to use. Here is a summary of three of those features:

- A feature called the Structure Visualizer draws structure guidelines from the start to the end of each block of code in the Code Editor to help you visualize the blocks. You can also hover over a guideline to display tooltips that let you see the start of each block as well as its parents.
- When you’re stopped in the debugger, you can use the new Run to Click feature to run code to a specific line without setting a breakpoint on that line. To do that, you can hover over the line and then click the arrowhead icon that appears.
- The Exception Assistant has been replaced by the Exception Helper. Like the Exception Assistant, the Exception Helper is displayed when an exception occurs that isn’t handled by the application. The Exception Helper provides more helpful information about the exception, and the information is presented in a more compact format.

New C# 2017 features

Several new features have also been added to the C# language. However, only two of them affect the material that’s presented in our book.

- You can now use expression-bodied constructors, and you can use expression-bodied get and set accessors on properties and indexers. An expression-bodied constructor currently works only with a single parameter, like this:
public Product(string code) => this.Code = code;

Expression-bodied get and set accessors look like this:

```csharp
public string Code
{
    get => code;
    set => code = value;
}
```

- You can now use throw expressions in addition to throw statements. You write throw expressions just like throw statements, but you can use them in constructs where you couldn’t use throw statements. For example, you can use them in conditional expressions, null-coalescing expressions, and some lambda expressions. Following is an example of a throw expression in a null-coalescing expression:

```csharp
public string Code
{
    get => code;
    set => code = value ??
        throw new ArgumentNullException(
            "Code must not be null."
        );
}
```