Getting started

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Before you can work with the examples in this book, you need to install Visual Studio Community 2015 and download and extract the Snaps sample files. These instructions will take you through these activities.

These instructions were accurate at the time of writing, in the summer of 2016. The precise details of the process might change in the future, but the underlying actions for what you have to do will remain the same. If you do have problems, be sure to check the website for this book (https://aka.ms/BeginCodeCSharp/downloads) to be sure that you are using the latest version of this document and the files. You can also check the troubleshooting tips at the end of this document.

Installing Visual Studio Community 2015

Installing Visual Studio Community 2015 might take a while, depending on the speed of your network connection. Although you need Visual Studio 2015 to work with this book's examples, you can run Visual Studio 2015 alongside other versions of Visual Studio. The installer will tell you how much disk space you need as you install the software.
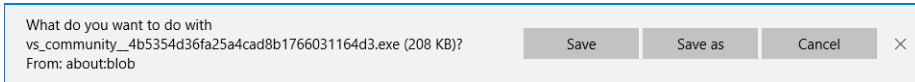
Follow these steps:

1. Open your browser, and go to the download page for Visual Studio: https://www.visualstudio.com/. The page contains a number of download options. You want Visual Studio Community 2015 Edition, as shown next.
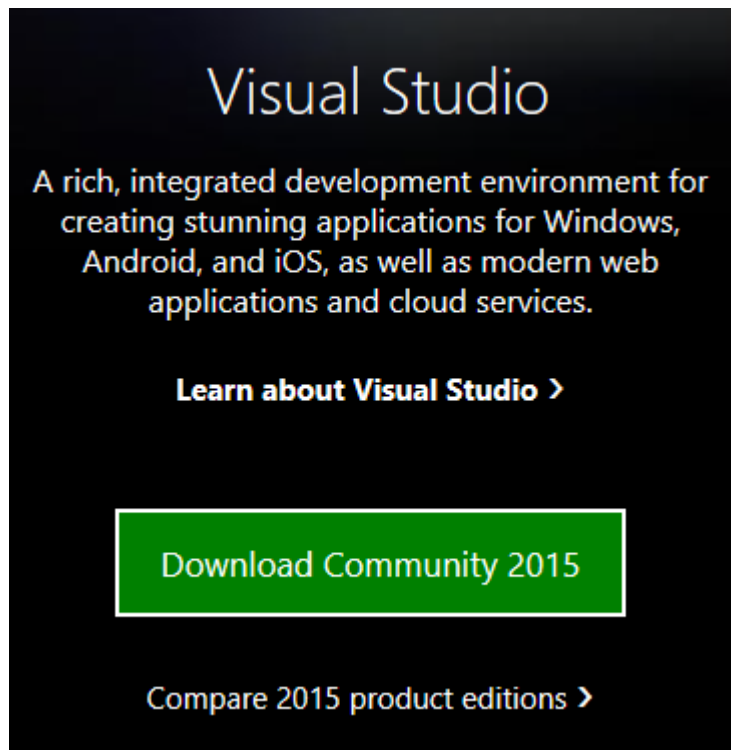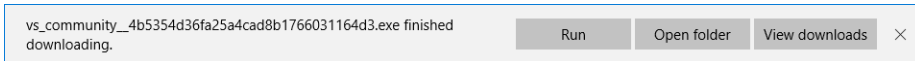

2. On the panel for Visual Studio Community 2015, click **Download Community 2015**, as shown above. This will download a small helper program that will start the setup process on your computer. You need to run this program to install Visual Studio.

3. If you're using Microsoft Edge, you will be given the option to download and save the file. Click **Save** to download the file.

What do you want to do with vs_community__4b5354d36fa25a4cad8b1766031164d3.exe (208 KB)? From: about:blob	Save	Save as	Cancel	✕

4. After the file has been saved on your computer, the following dialog box will appear. Click **Run**.

vs_community__4b5354d36fa25a4cad8b1766031164d3.exe finished downloading.	Run	Open folder	View downloads	✕

5. You might see a security warning from Windows at this point. Click **Run** to continue installation. The Visual Studio installer now appears. The following screenshot shows the installer's start page:
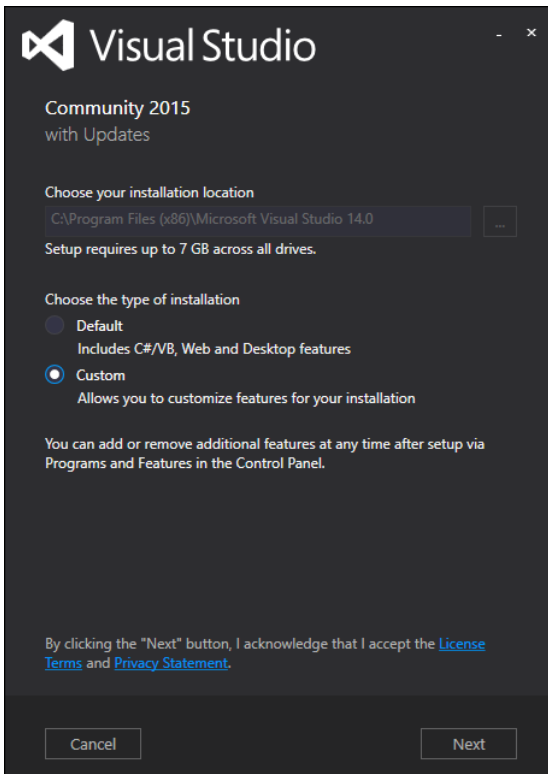

6. Select the **Custom** option, and then select **Next**. The installer will display a page on which you can select the features of Visual Studio that you want to install.
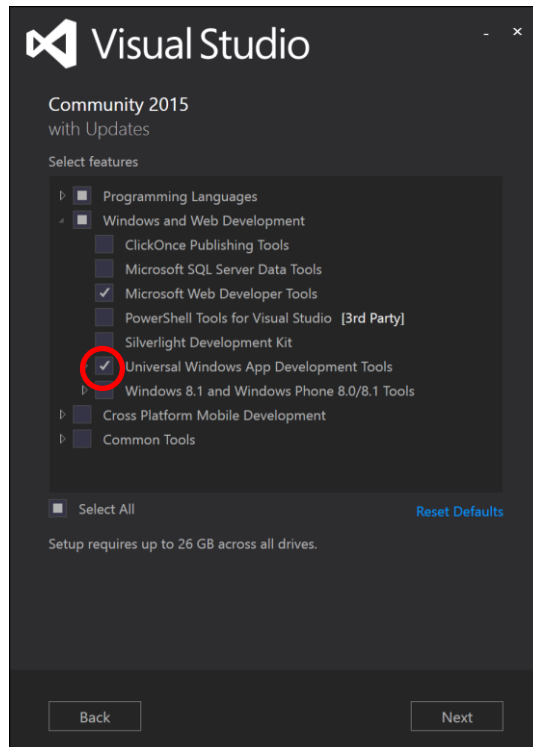
7. Ensure that the **Universal Windows App Development Tools** option (high-lighted above) is selected, and then select **Next**.

   You can reduce the amount of hard-disk space required for the installation by selecting the arrowhead next to the **Universal Windows App Development Tools** item to expand the list of features and then clearing the **Emulators for Windows 10 Mobile** item, as shown below. Be sure that all the other items are selected. If you want to develop mobile applications, you can install these features later.
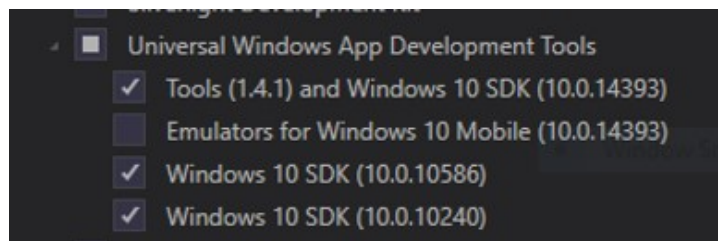

8. On the next page, select **Install**, and then select **Yes** in the User Account Control message.

   As the installation process proceeds, you'll see progress bars as Visual Studio

features are downloaded and installed. On some systems, it might be necessary to reboot your computer during the installation. If you are prompted to do this, just confirm the action each time you're asked.

9. Once the installation is complete, select **Launch** to start running Visual Studio.
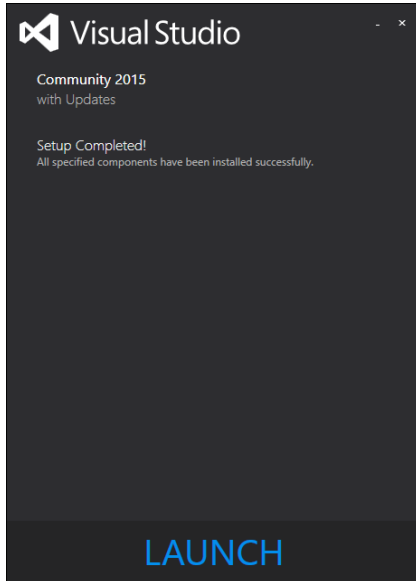

Signing in

When you launch Visual Studio the first time, you're prompted to sign in to Visual Studio Online, as shown next. Signing in allows Visual Studio to synchronize the settings between different devices that you use. To sign in to Visual Studio Online, you need a Microsoft account. (If you don't have a Microsoft account yet, you can create one here: https://signup.live.com/.) (If you select **Not now, maybe later** instead of signing in, you'll jump ahead to step 3 to configure the color scheme you want to use.)
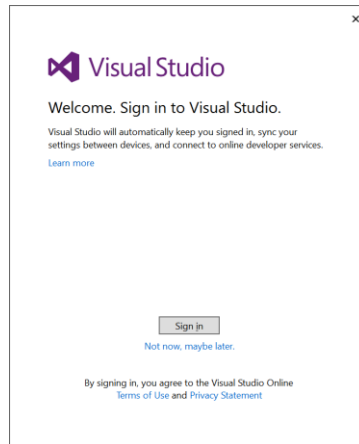
1. Select **Sign in**. On the page shown next, enter the email address linked to your Microsoft account.
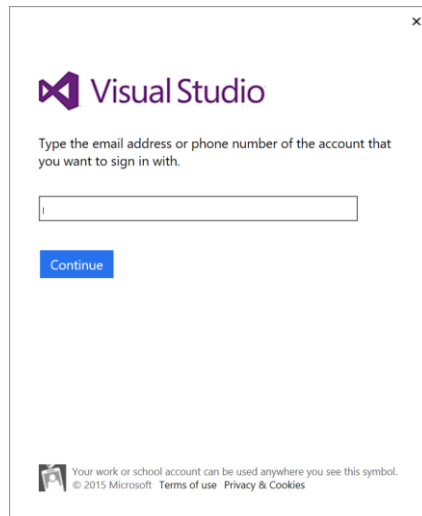
2. Click **Continue**. Enter your account name again and your password, and then click **Sign in**, as shown here:
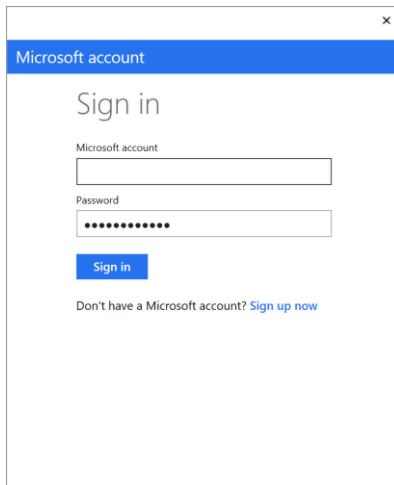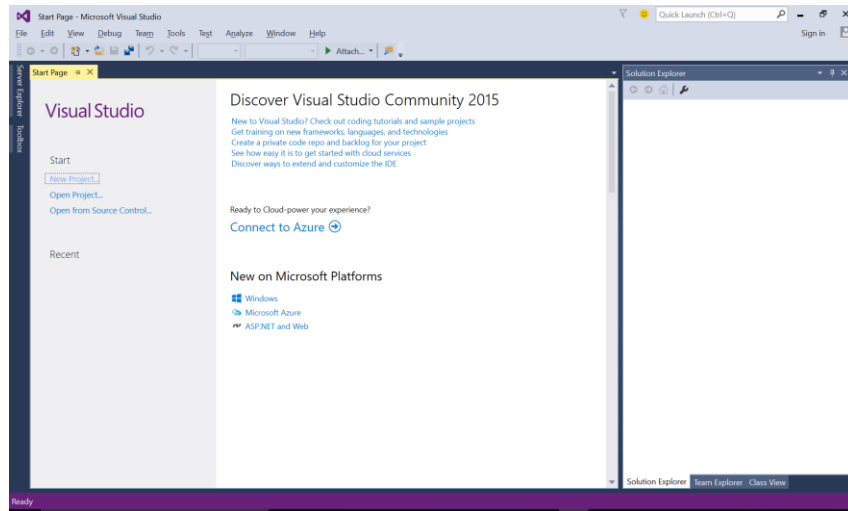
3. On the screen shown next, choose the color theme you want to use when you write your programs. (All the screenshots and code examples in this book have been taken from a version of Visual Studio running with the Blue theme.) Leave the **Development Settings** list set to **General**.
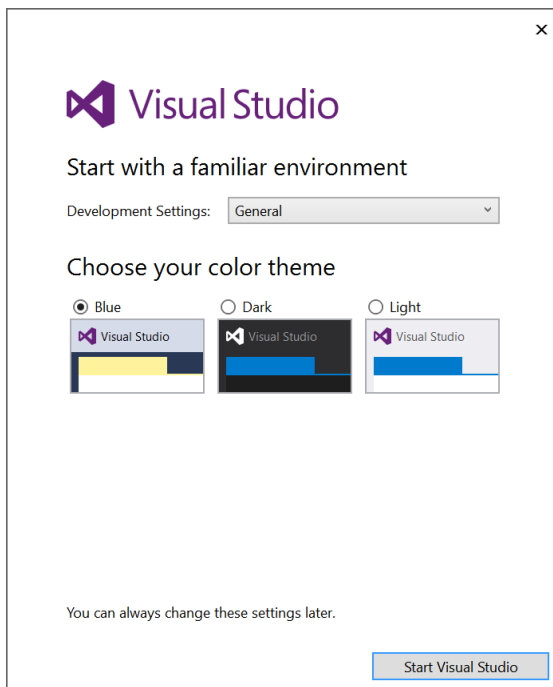
4. Click **Start Visual Studio**.

Visual Studio's Start page now appears. Congratulations!

With Visual Studio installed, the next step is to set up the book's demo code. Use the Close button in the upper-right corner of the Visual Studio window to close Visual Studio before proceeding.

Extracting the book's demonstration code

The *Begin to Code with C#* demonstration code contains more than 150 sample applications. You'll observe, analyze, and modify the code for these applications as you work through the book. All of these sample applications are held inside a single Visual Studio solution, and I've created an easy-to-use interface that lets you find and run any of them. You have direct access to all the source code and assets for these programs, and you'll be able to use them as the basis of your own applications. These demo programs are all built using the Snaps library, which has been created to make it easy for you to build simple applications that run on the Universal Windows platform. You'll learn more about the Snaps library throughout the book.

Before you can use the sample apps, you need to extract them from the .zip file that you downloaded along with these instructions from https://aka.ms/BeginCodeCSharp/down-loads.

Follow these steps:

1. Double-click the BeginToCodeWithCSharp.zip file to open it. This screenshot shows the .zip folder when it is open.
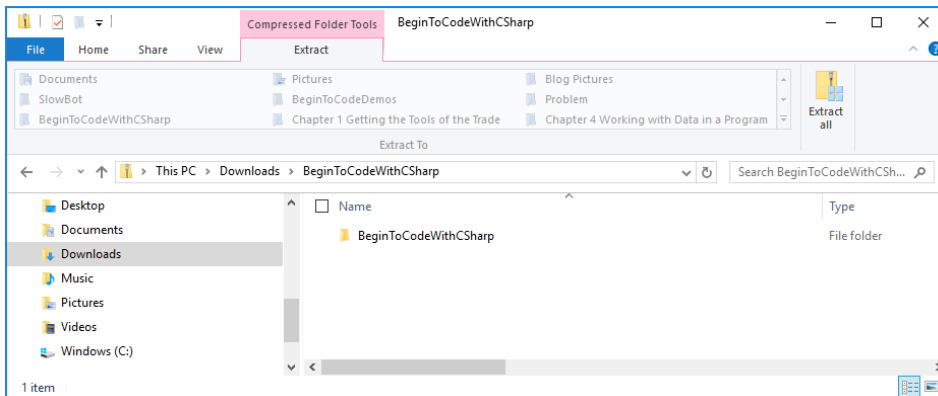
2. Drag the BeginToCodeWithCSharp folder that you see inside the .zip folder to the location on your computer where you want to store it, such as on the desktop or in your Documents folder. When you drop the folder where you want to store it, the files are automatically extracted. (If the files are not un-packed automatically, right-click the folder, and select **Extract All**.)

It is very important that you extract the files from the archive before you open them in Visual Studio; otherwise, you will get errors when you try to open the solution.

After all the files are extracted, you'll have a folder named BeginToCodeWithCSharp that contains the demo files. Here's what you'll see inside that folder:
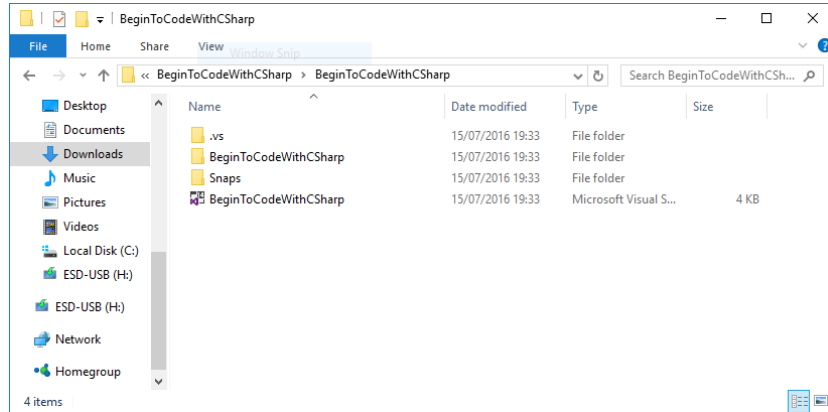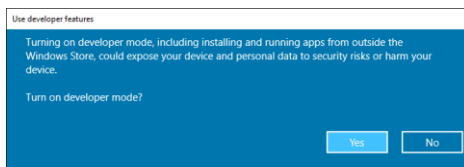
Settings for developers

Before you can develop and run programs using Visual Studio, you need to set up your computer to run in developer mode. When you select developer mode, you can increase some security risks on your computer. Windows 10 displays a warning to make sure that you are aware of the implications of making this change, but if you intend to run programs that you've written and those that you've bought from the Windows Store, enabling developer mode won't cause you any problems.

1. Press the Windows key, and then type **developers settings.** Select the best match to open the developer settings page. The top half of the page looks like this:
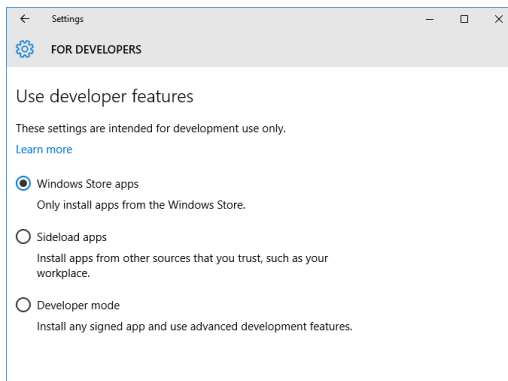
2. Select **Developer mode**. You'll see a warning asking you to confirm the change in settings.

3. Click **Yes**, and then close the developer settings page.

You're now ready to start working with Visual Studio and to begin coding with C#. Continue with the section "Using the tools" in Chapter 1 to start your journey.

Using the sample files for Part 4

In Part 4 of this book, you learn how to develop freestanding Universal Applications for Windows 10. Each example is a separate Visual Studio solution. You can download a single .zip file with all the sample solutions from https://aka.ms/BeginCodeCSharp/downloads. When you open the archive, you will see the following set of solution folders:
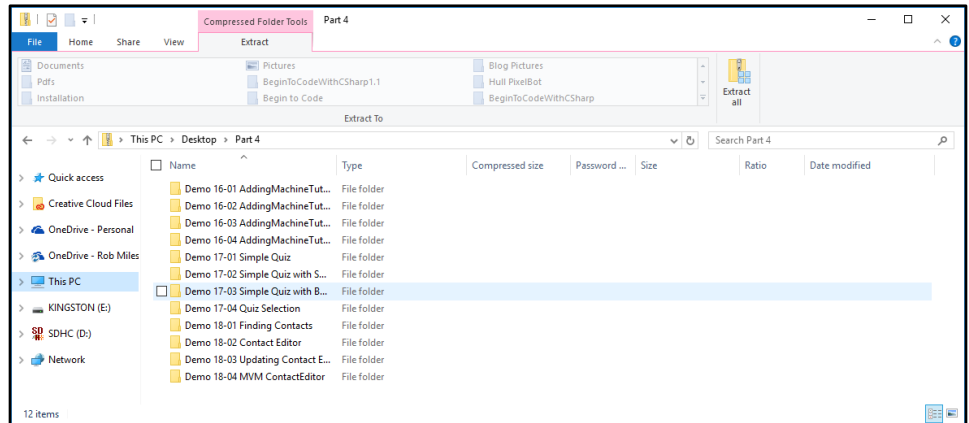
Drag these folders to your desktop or to your Documents folder (as you did with the BeginToCodeWithCSharp folder) to open the solutions.

Troubleshooting

The sample programs and the installation steps have been tested on lots of computers to ensure that they work correctly. However, I do recognize that you might have problems. Here are some troubleshooting tips.

Are you using the latest version?

Make sure that you are using the latest version of these instructions and the sample files. Check on the book's website (https://aka.ms/BeginCodeWithCSharp/downloads) to make sure you are using the latest version. The version number and date of this document are given at the top.

Have you extracted the files from the archive?

Be sure that you have followed all the steps above in sequence, including extracting the solution folders from the archives. If you try to open the Visual Studio solutions from within the .zip archives (which is easy to do because the archives look a lot like Windows folders), Visual Studio will try to open files in the archives, but it then gives you lots of errors.

Have you put the sample code at the bottom of a long folder tree?

Visual Studio creates a lot of files and folders when it builds a new solution. Some of the files and folders that are created have very long names. Unfortunately, the Windows file system has a problem with file paths that are more than 256 characters. If you decide to put the Snaps solution in a folder named (for example) **c:\users\rob\documents\beginto-codewithcsharp\myfirstprogramsincsharp\demonstrationcode**, you might hit this limit and receive some strange errors. I advise you to put the sample solutions directly in your Documents folder or on the desktop.

Did you forget to install the tools for Universal Windows applications?

You must install the **Universal Windows App Development Tools** to open the sample programs. (See step 6 under "Installing Visual Studio Community 2015," above.) If you did

not install these tools, you can run the installation again from the Visual Studio website and then select the option for Universal Windows App Development Tools. You can also run the installation again to upgrade an existing Visual Studio Community 2015 installation to allow Universal Windows applications to be developed.

Are you using the correct version of the Windows SDK?

Visual Studio works with different versions of Windows Software Development Kits (SDKs). The sample programs have been written for version 10586 of the SDK, which should be installed automatically when you install the Universal Windows App Development tools. However, if you receive errors in Visual Studio that indicate that projects can't be loaded, you should check to be sure that the correct SDK version is installed. To do this, restart the setup program for Visual Studio (see "Installing Visual Studio Community 2015" earlier) and then select the **Custom** option to manage your Visual Studio installation. Be sure that version **10586** is selected, and then select **Update**.
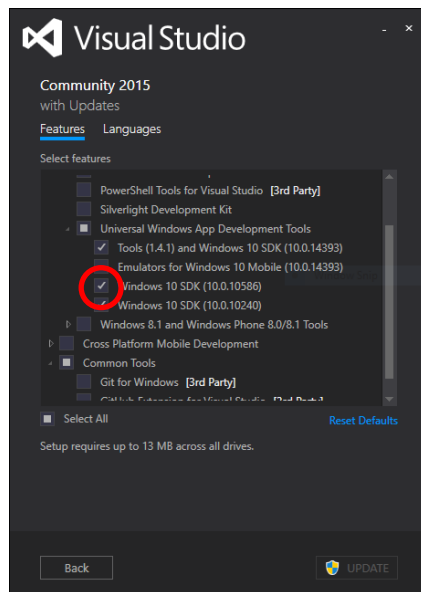
Are you using a network drive?

Colleges and schools that have large numbers of PCs in teaching laboratories frequently use network drives for storage. Drives that are accessed via a network connection might be regarded by Windows as less trustworthy, which can lead to problems when you try to run programs from them. If you are using a workstation connected to a network drive, you may find that parts of Visual Studio will not work correctly. If you have problems accessing the

sample files over a network, speak with the system administrators.

Are you using 64-bit Windows 10?

Windows 10 runs on several different kinds of computers. The sample programs require the 64-bit version of Windows 10 to work correctly. You can confirm which version of Windows you are using (64-bit or 32-bit) by pressing the Windows key, typing **system**, and viewing basic information about the computer and Windows.