

Common types of .NET applications

Type	Description
Windows Forms	Runs in its own window on the user's PC and consists of one or more Windows.
ASP.NET Web Forms	Runs on a web server and consists of one or more web forms that define pages that are displayed in a browser on the client.
ASP.NET MVC	Runs on a web server and consists of pages that are displayed in a browser on the client machine. Unlike ASP.NET Web Forms, ASP.NET MVC uses a Model-View-Controller design pattern to create its pages.
WPF	Runs in windows on the user's PC and provides an enhanced user experience.

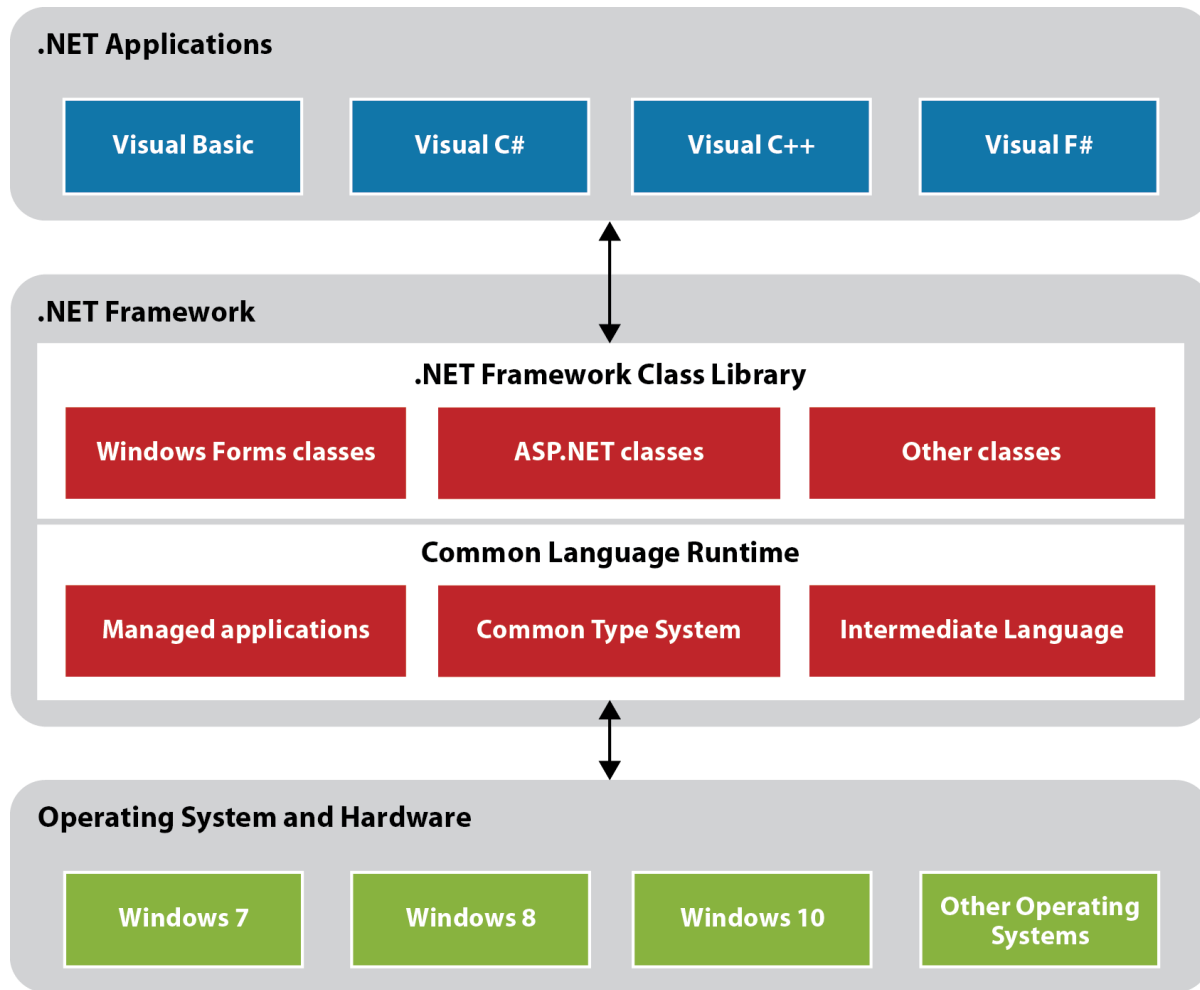
Visual Studio 2015 Editions

- Community Edition
- Professional Edition
- Enterprise Edition

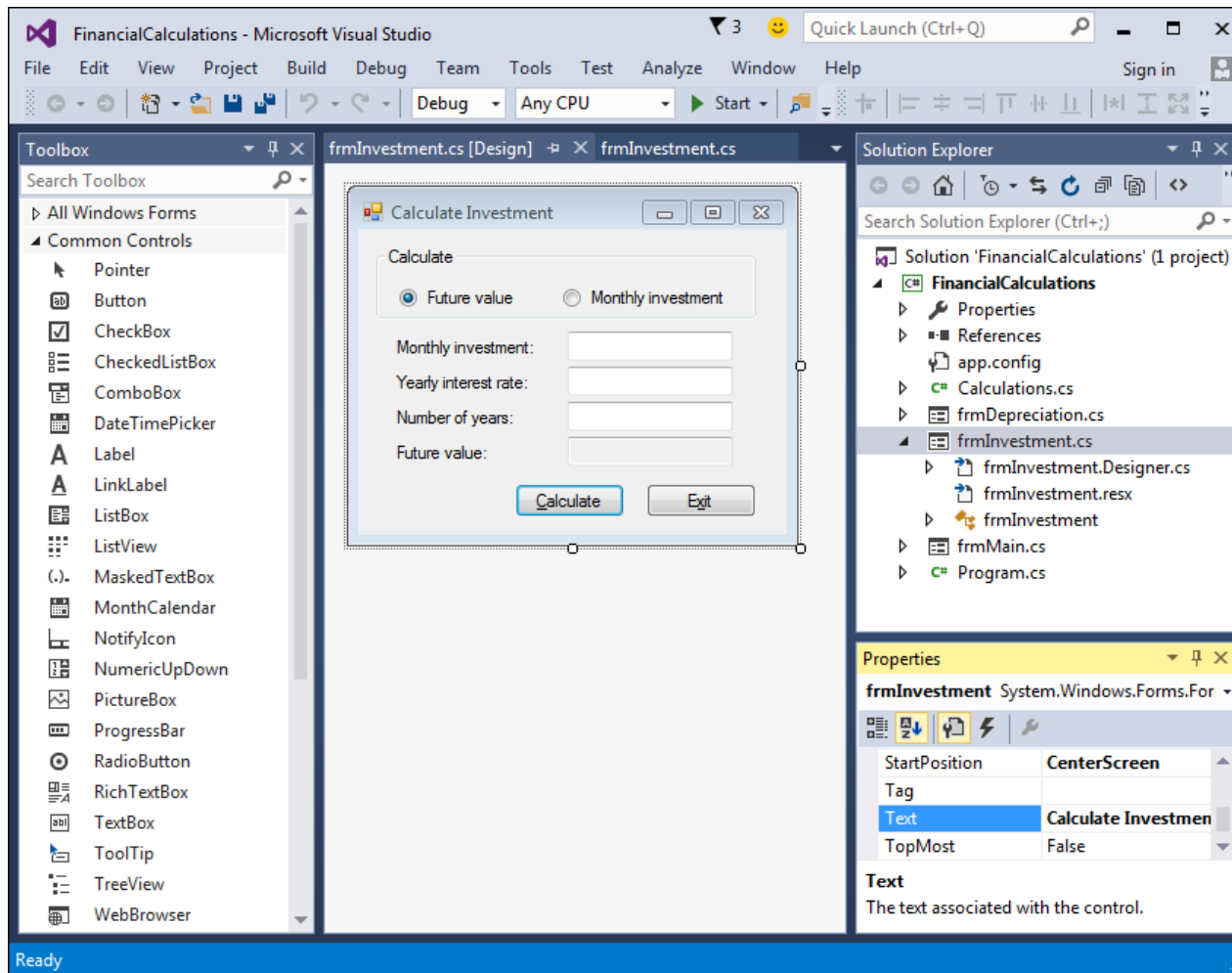
Programming languages supported by Visual Studio 2015

- Visual Basic
- Visual C#
- Visual C++
- Visual F#

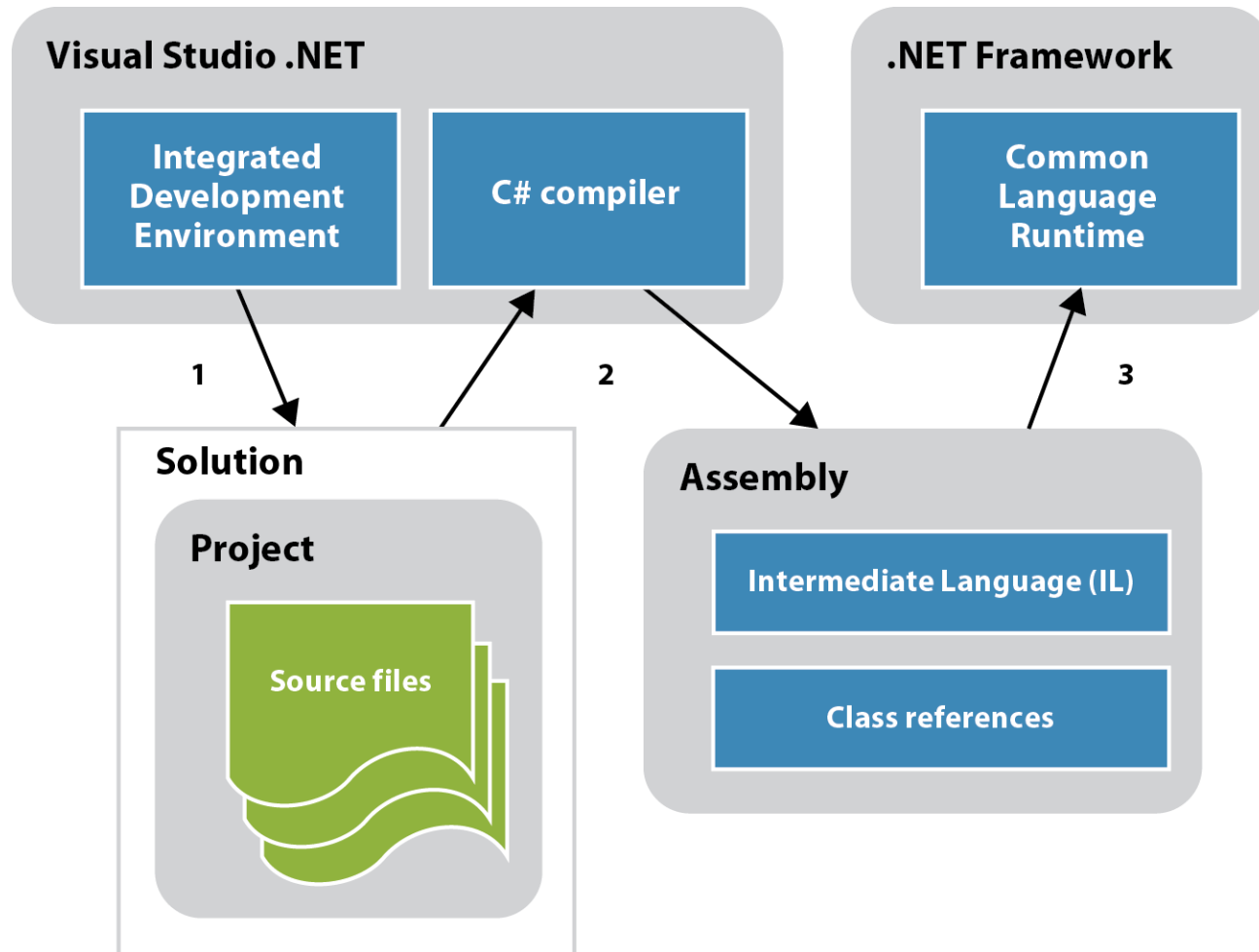
The .NET Framework



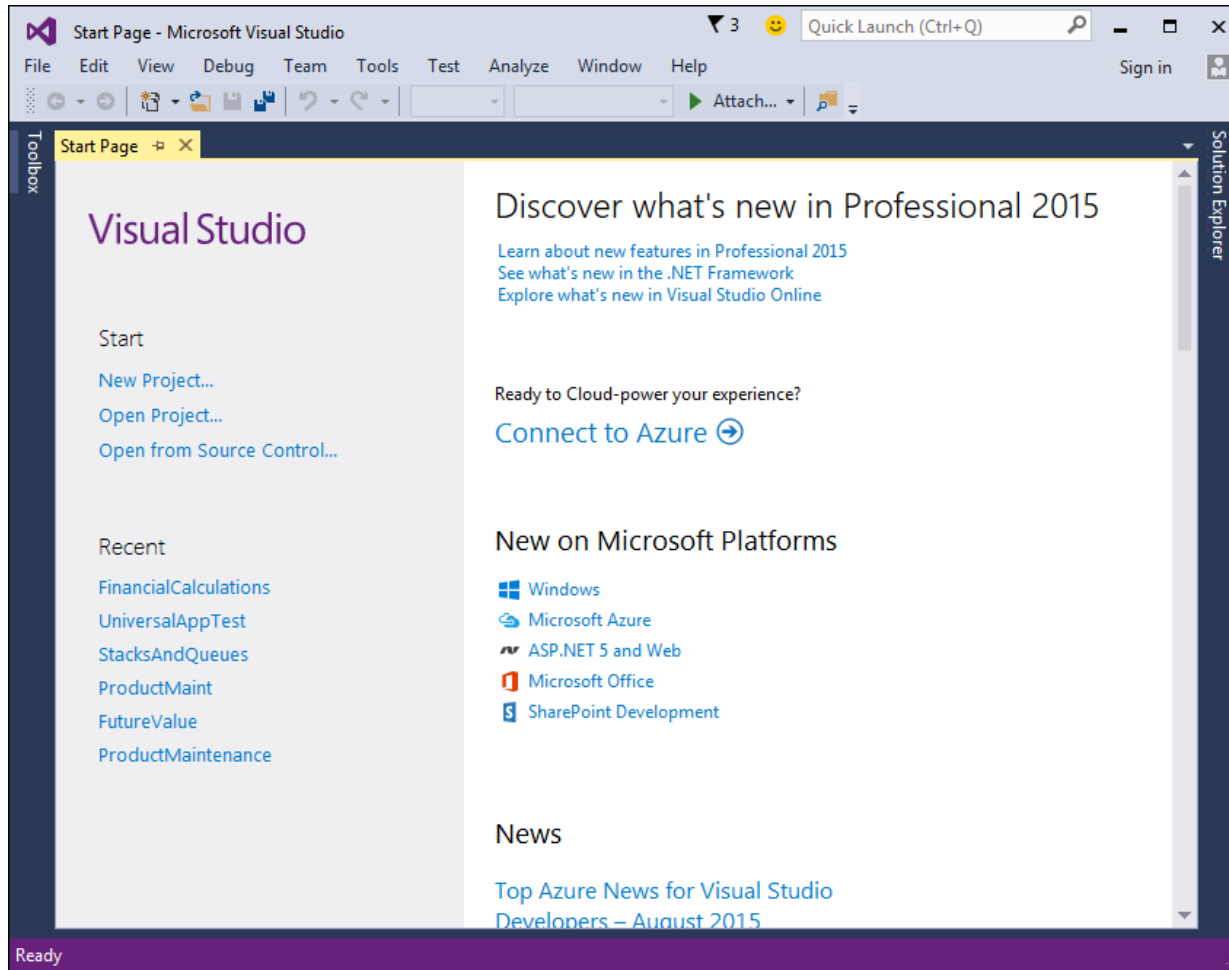
The Visual Studio IDE



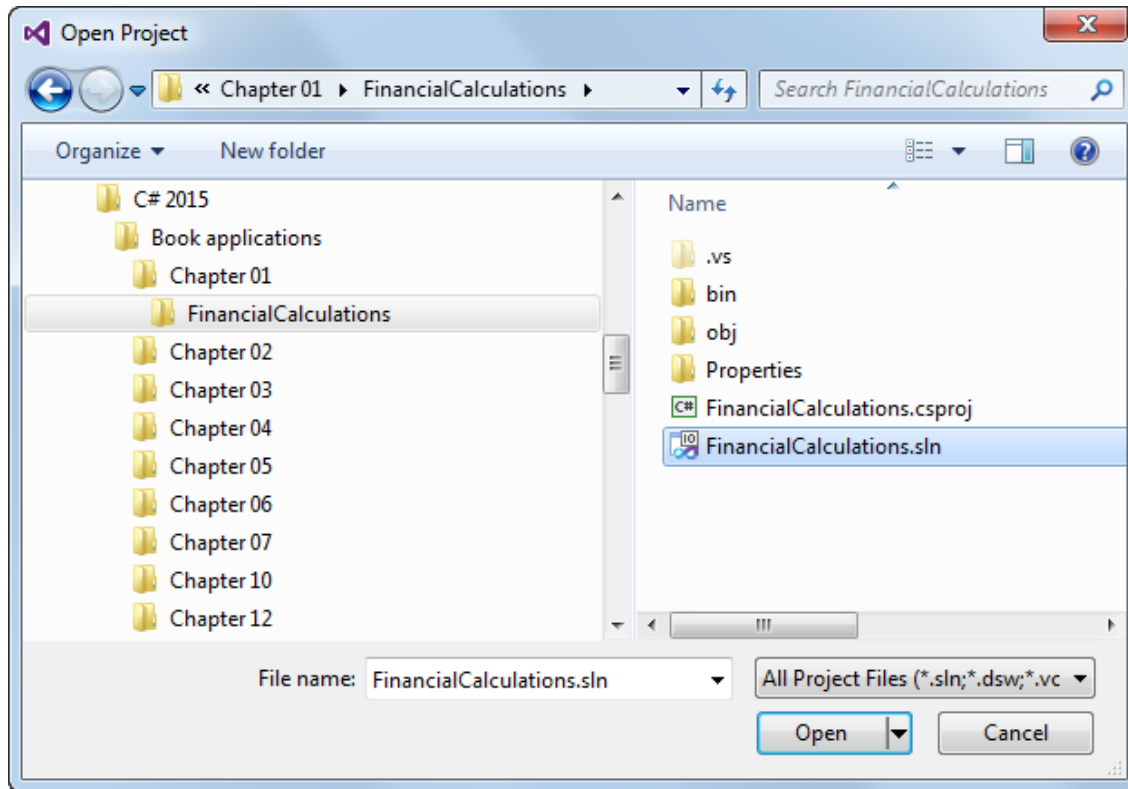
How a C# application is compiled and run



The Visual Studio Start Page



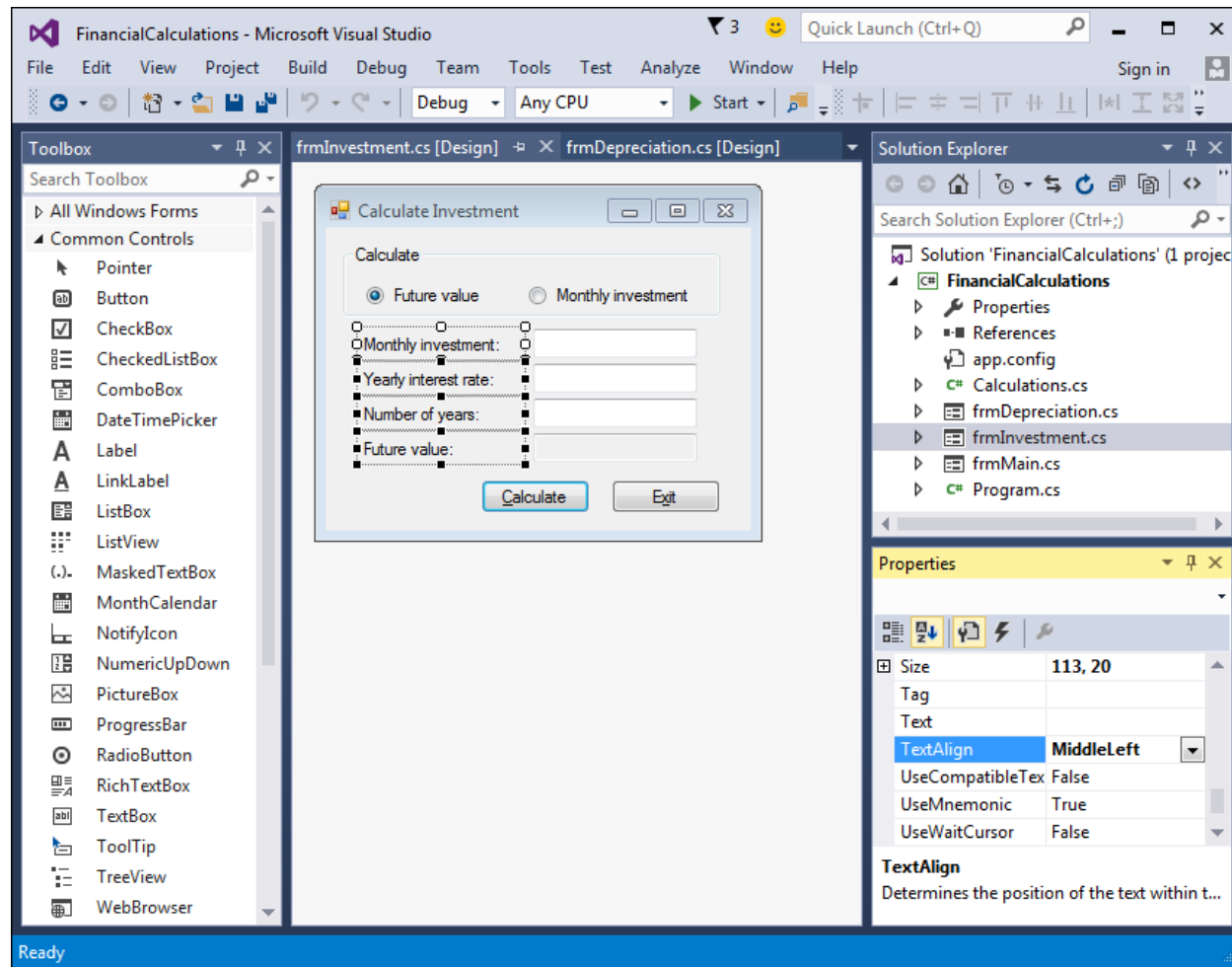
The Open Project dialog box



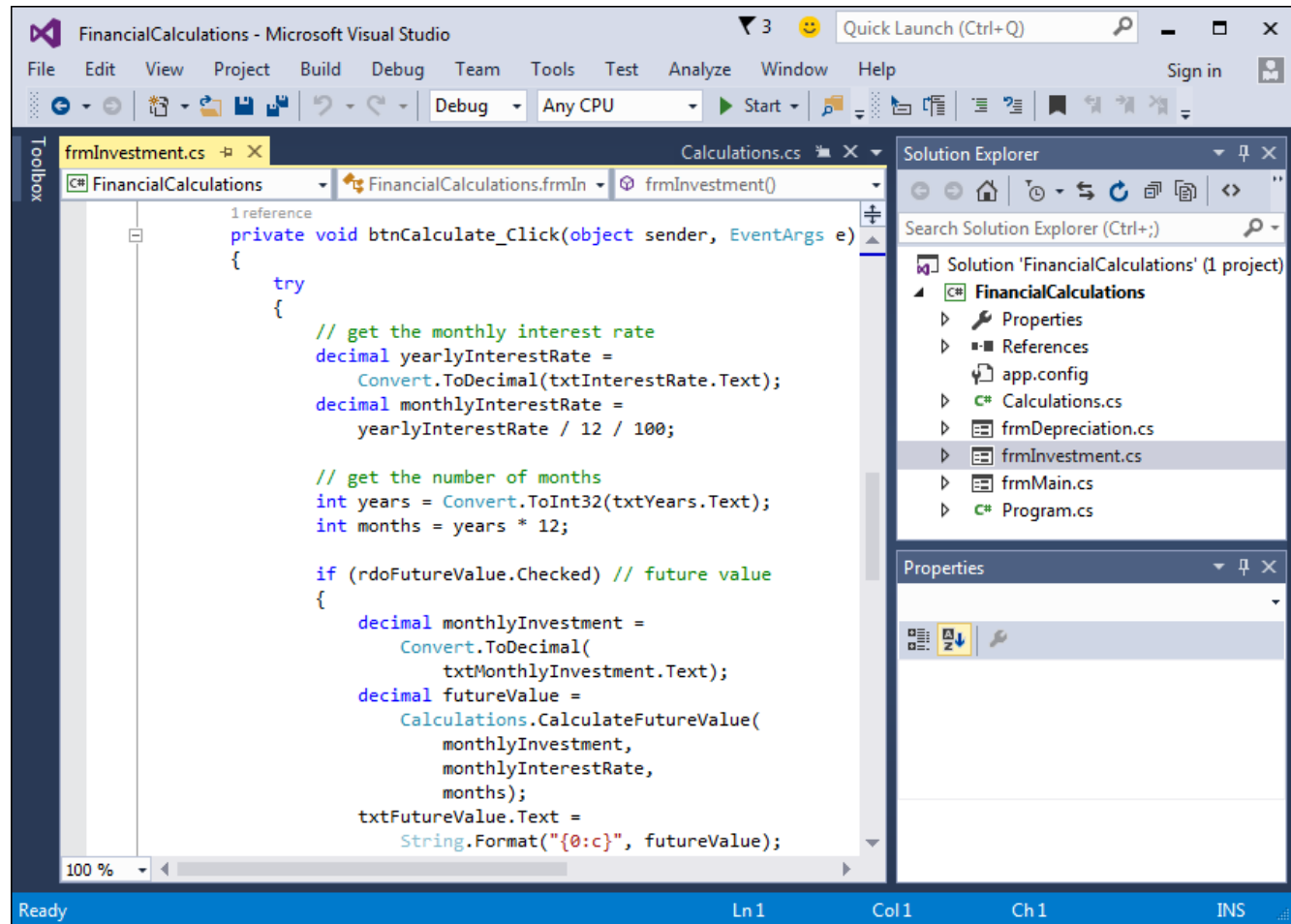
Project and solution concepts

- Every C# project has a *project file* with an extension of *csproj* that keeps track of the files that make up the project and records various settings for the project.
- Every solution has a *solution file* with an extension of *sln* that keeps track of the projects that make up the solution.
- When you open a project file, Visual Studio opens the solution that contains the project. And when you open a solution file, Visual Studio automatically opens all the projects contained in the solution.
- The project file can be stored in the same directory as the solution file or in one of its subdirectories.

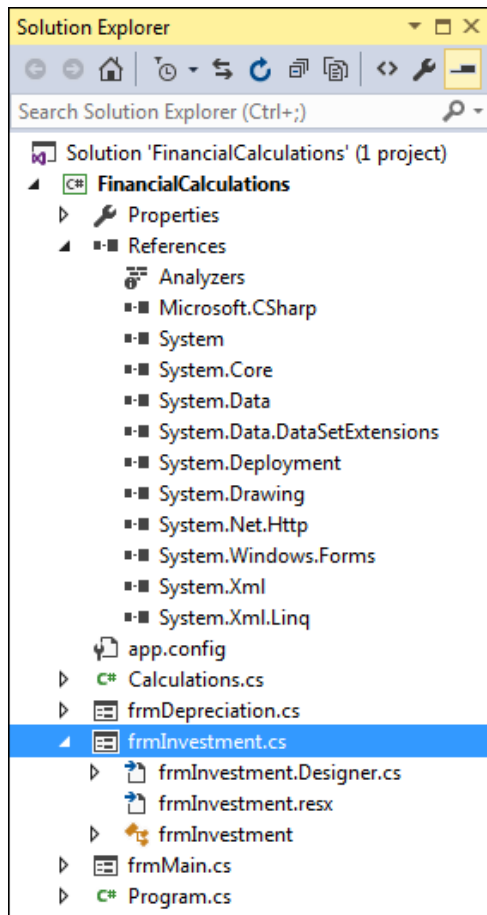
The Form Designer window of Visual



The Code Editor window of Visual



The Solution Explorer



Project files

- The Solution Explorer uses different icons to distinguish between source code files that define forms and source code files that don't.
- Each form is defined by two C# source files where each file contains a *partial class*. The file with the cs extension contains the code that's entered by the programmer, and the file with the Designer.cs extension contains the code that's generated when the programmer works with the Form Designer. When the project is compiled, these partial classes are combined into a single class that determines the appearance and operation of the form.
- A source code file that doesn't define a form is usually stored in a single C# source file that contains a single class.

Project files (cont.)

- The Program.cs file contains the C# code that starts the application and runs the first form. The app.config file contains configuration information for the application.
- The References folder contains references to the assemblies for the namespaces that the application can use.

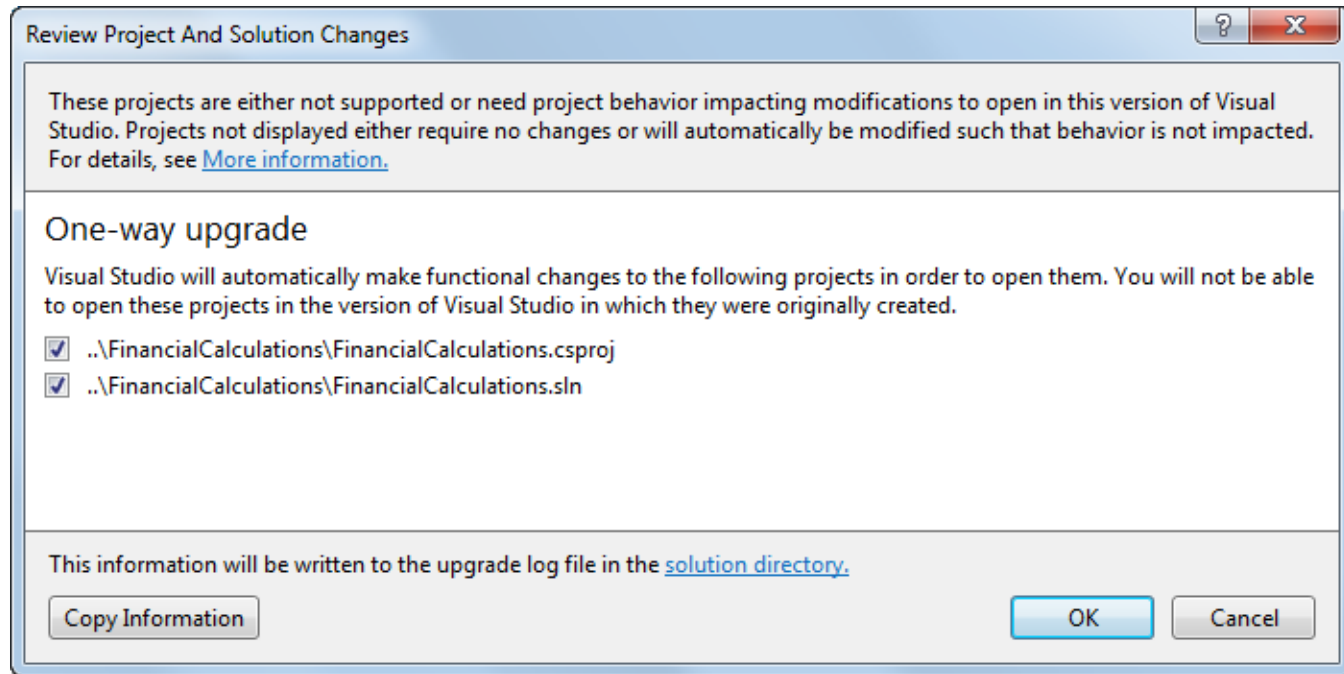
How to build a project without running it

- Use the Build→Build Solution command. Or, right-click the project in the Solution Explorer and select the Build command from the shortcut menu.

How to run a project

- You can *run* a project by clicking on the Start button in the Standard toolbar or by pressing F5. Then, the first form of the project is displayed on top of the Visual Studio window.
- If the project hasn't already been built, the project is first built and then run.

The dialog box for upgrading a project to Visual Studio 2015



The application properties for a project

