

COMP 2221 Practical 01 – C# Programming with Visual Studio

In this practical, you will get familiar with programming with C# using Visual Studio.

A core part of learning a programming language is to be able to search online for information/functions and understand the related documentation. Therefore, try Googling for the functions that you may need and read the function documents/examples.

Remember to compile your program whenever you implemented something new, and check out if there are any compilation errors. This way you can debug all the errors before implementing further.

Task 1: Getting Familiar with Visual Studio

Please follow the video here to create, build and debug a C# console program:

<https://www.youtube.com/watch?v=PRQ52qYe6YU>

Task 2: A Basic Timer Application

You are provided with a project that creates a simple timer application, with which you can count down some seconds. Please read, compile and run the program to understand the logic. You are also provided with an EXE file that showcases what the final product of the program could be – you may run it and understand more.

Then, please improve the functionality by implementing the following:

1. Please ask the user to enter an integer from the console, which represents the duration for counting down.
Functions to consider: [Console.Write](#), [Console.WriteLine](#), [Console.Read](#), [Console.ReadLine](#)
2. Please convert the input to an integer and use the above input to do the countdown.
Hints: <https://docs.microsoft.com/en-us/dotnet/csharp/programming-guide/types/how-to-convert-a-string-to-a-number>
3. Your program may crash if the user enters something other than numbers. Instead of crashing, please display an error message if the user enters something wrong.

Task 3: An Advanced Timer Application

Please implement an advanced timer with the following functionalities:

1. Instead of asking the user for the duration as the number of seconds, please ask the user to provide a duration in the minute:second format. E.g. 1:20 means 1 minute 20 seconds.
2. Please convert the input into a number and use it for the countdown.
Hints: You may need some string functions.
3. During the countdown, please display the current duration left. Instead of writing a new line for every second, please write the duration using the same line.
Hints: Google is your friend here!

Task 4: The Menu

Please implement the following functions:

1. When the program is started, it gives the user a selection of (1) the basic timer, (2) the advanced timer, and (3) exit. Based on the user's selection, the appropriate function is carried out.
2. If the user choice is (1) or (2), after the timer finished counting, the program displays the menu and ask for the user's selection again.
3. Even if the user enters something wrong for the menu selection, the program should not crash.