Week of January 4, 2015

Topics for this week: Introduction to Programming

Activity Checklist

	Familiarize yourself with the course web pages.
	Register for the forum and post your first message.
	Read chapter one in the course packet.
	Review the slides Introduction to Programming
	Review the video Installing Visual Studio
	Review the video Customizing Visual Studio.
	Review the video Writing Your First Program.
	Review the sample program C# Structure
	Complete lab #1. It is due before 11:59pm on Thursday.

Learning Goals

It is expected that you will meet the objectives outlined here by the end of the week. You might want to test yourself to see how well you fare. You can be guaranteed that you will be tested on these concepts on your first midterm. By the end of this unit, you should be able to:

- Briefly describe some of the career options for computer programmers
- Discuss the steps required to develop a program, and model these steps in your own software development.
- Demonstrate that you understand the basic structure of a C# program.
- Show that you know what steps are required to edit, compile, and execute a program.
- Show that you can use Visual C# Express Edition to create a simple C# program.
- Explain what happens in the computer as it executes a program.
- Show that you understand the use of the code segment and the data segment.

Reading Assignment

All reading should be done before you come to class. Your ability to understand the material discussed in class will be greatly enhanced when you come to class prepared.

1. This week, read the first chapter in your course packet - These pages provide a nice introduction to the business of programming and an overview of C# program structure.

   
   You will be held responsible for the assigned reading material. Even though we do not talk about everything covered in the book during class, there are important things to learn in the book. You may find questions about material covered in the book on an exam.

2. Slides on "Introduction to Programming" - These slides introduce you to the different areas where computer programming is used. The slides then discuss some of the tools that you will use this semester as you learn to program, and walk you through the steps involved in creating, compilng, and executing a program.

   
   Many students find it helpful to bring a copy of the slides to class. They provide a convenient place to make note of things discussed in class.

Key Concepts

You should be sure that you understand these important concepts.

1. In the memory of the computer, instructions and data are all stored as ones and zeros. A Program Counter always points to the next instruction to be executed. It knows where to move to find the next instruction. Different types of data (whole numbers, real numbers, characters) are all stored in different ways. When the compiler generates machine language instructions, it has to know what kind of data each instruction will be working with so that it can generate the correct instruction. C# is what is called a **strongly typed** language, because every piece of data in a C# program must be defined to have a specific type.
2. There are a number of steps involved in creating a program:
    1. Creating the source code
    2. Compiling the program
    3. Loading the executable module into the computer
    4. Executing the program, instruction by instruction

Lab Assignment

This week you should complete lab one. This lab will get you started using Visual C# Express Edition. Be sure to read all of the material provided with the lab before you complete the programming section of the assignment.


Be sure that your labs are correctly submitted to Canvas. Follow all of the rules on naming your labs, projects and source code files, and submitting your lab. Note that all assignments are due at 11:59pm on the due date. Don't wait until the last minute to work on your assignments - some of them will take several hours to complete.


Do you have questions on how to use Visual C# Express Edition? Try posting your question to the forum.