

Introduction to C#

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Based on slides by Mingsheng Hong

Goals of this course

- Introduce C# language
 - Originally developed by MSR
 - ECMA standard
 - Not just a syntactic variant of Java or C++
- Introduce .NET framework
 - “write once, run everywhere”
 - Base of Microsoft's C# implementation

Non-goals

- Teach you to program
 - Will not cover much if any basic programming
- Introduce object oriented languages
 - You should be very comfortable writing OO code
 - Prerequisites: CS 2110 / 2111
 - OR: experience in OO coding/concepts
- Overview details of C# language and its library
 - Consult MSDN and/or your favorite search engine

Reference Material

- No textbook required
- Recommended resources
 - MSDN
 - Your favorite search engine
 - Books
 - Programming Microsoft Visual C# 2005
 - The C# Programming Language (2nd edition)
 - Inside C# (2nd edition)

Course Overview

- 1 credit, 4 weeks
- To pass, you should
 - Understand the concepts, and write C# code
- Requirements for the course
 - Come to lecture, learn proactively
 - Finish three assignments
- Assignments are S/U
 - Non-numerical grades
 - Academic Integrity
 - Do not submit work that is not your own

Quiz

- Could be given during some lectures
 - Not for credit, just to get gage your understanding
- This is a short and fun class
 - Relax!
 - But do your part to learn

Class Time & Office Hours

- Class time: MWF 12:20 – 1:10
- Office hours: TBD
 - Or by appointment
- Contact me any time at:
 - hussam@cs.cornell.edu

Website

- Course webpage:
 - <http://www.cs.cornell.edu/courses/cs2026/>
 - Lecture slides will be posted online
 - as well as other relevant information
 - e.g. Possible errata for the homework
- CMS: <http://cms.csuglab.cornell.edu>
 - Will be used for homeworks
 - Turn on your email notifications!

Hardware/software setup

- Machines
 - CSUGLab
 - Visual C# 2008 Express and Visual Studio .NET 2005 should be installed there
 - Your own computer
- Visual C# IDE
 - Search for “Visual C# Express” online
 - Or use Visual Studio: MSDNAA
 - Version 2008 recommended, 2005 is mostly ok
- Linux Mono ok for first part of course

Syllabus

- C# constructs
 - Tpes, Delegates, Generics, Reflection, Iterators
- .NET Memory Management
- Advanced Topics
 - C# 3.0, Threading, MSIL ...

C# Syntax Through Examples

- Program 1: hello world
 - using
 - namespace
 - class
 - (static) member methods
 - main function
 - Console.WriteLine
 - Similar to printf (C), cout (C++), system.out.print (Java)
 - string data type
 - Other primitive data types ?

C# Syntax Through Examples

- Program 2: stack
 - Accessibility
 - public, protected, private ..
 - Member field
 - Exception
 - Inner class
 - Object creation