

COMP 1202

Object Oriented Programmings (OOP)

Lab Session - Week 01

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Organization (1)

Instructor

Mehdi Azad

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Course website

- Syllabus, Assignments, slides, lecture notes, due dates:
D2L Brightspace | George Brown College

Textbook

- C# Programming: From Problem Analysis to Program Design, 5th Edition
(Visual Studio 2015) by Barbara Doyle

Organization (2)

AtKlass

- code for this session: C91Q
- self-register: UMFV

Grading

- Lab Exercises: 7 X 1% each
- Lab Test 1: 10%
- Lab Test 2: 10%

Software Requirement

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Visual Studio 2022

- Desktop and Mobile -> .NET Desktop development (C#)
- Data Storage and processing

We'll create the App in the class

Software Development Process

Programming is a process of **problem solving**

The methodology to solve computer-related problems

- Problem Specification
- Analyze the problem
- Design a solution
- Write and Implement the code
 - We use C# for this purpose in this course

We can ask ChatGPT to solve our problems, but ChatGPT is a program itself written by programmers following the steps above

Implement the code (1)

FIRST STEP:

source code are compiled to check for rule violations (list of **errors**)

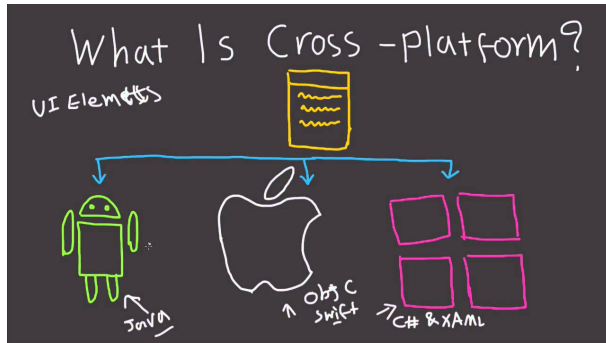
the source code is converted into the **Microsoft Intermediate Language (MSIL)**

Java's Intermediate Language (IL) is called **bytecode**

IL code is between the high level source code and machine language code (**native code**)

Implement the code (2)

Using **IL** instead of directly compiling to **machine language** makes our code more platform independent



Implement the code (3)

SECOND STEP:

- **just-in-time (JIT) compilation**
 - converts the MSIL code into the platform's machine native code.
- This second step is managed by .NET's common language runtime (**CLR**).
- Any computer that executes the code must have the CLR installed.
- The CLR is included with the **.NET Framework**
 - Any computer executing .NET code must have the .NET Framework installed

Creating C# Console App in Microsoft Visual Studio 2022

We'll create the App in the class

Write Console App in C# (1)

```
namespace ExampleConsoleApp
{
    internal class Program
    {
        static void Main(string[] args)
        {
            Console.WriteLine("Hello, World!");
        }
    }
}
```

Write Console App in C# (2)

```
static void Main(string[] args)
{
    Console.WriteLine("what is your name?");
    var name = Console.ReadLine();
    var currentdate = DateTime.Now;
    Console.WriteLine($"\\nhello, {name}, on
        {currentdate:d} at {currentdate:t}!");
    Console.Write($"\\npress any key to exit...");
}
```

Challenge

Write a program that get two integer numbers num1 and num2 form the user and print the sum of them.

```
reuslt = num1 + num2
```

hint: use **Convert.ToInt32** to convert the string format to integer