

Yin Lou

CS 2026, Spring 2010

Visual Studio and .NET Framework

Administration

- CMS is up
 - Let me know if you are not in CMS
- Office Hour
 - Friday after class until 2pm, 4161 Upson
- The first assignment will be posted by Friday
 - Due next Friday
- Three assignments in total
 - Released on Friday, due next Friday

Outline

- Visual C# 2008 Express walkthrough
- .Net framework, CLR, CTS
- C# language guide

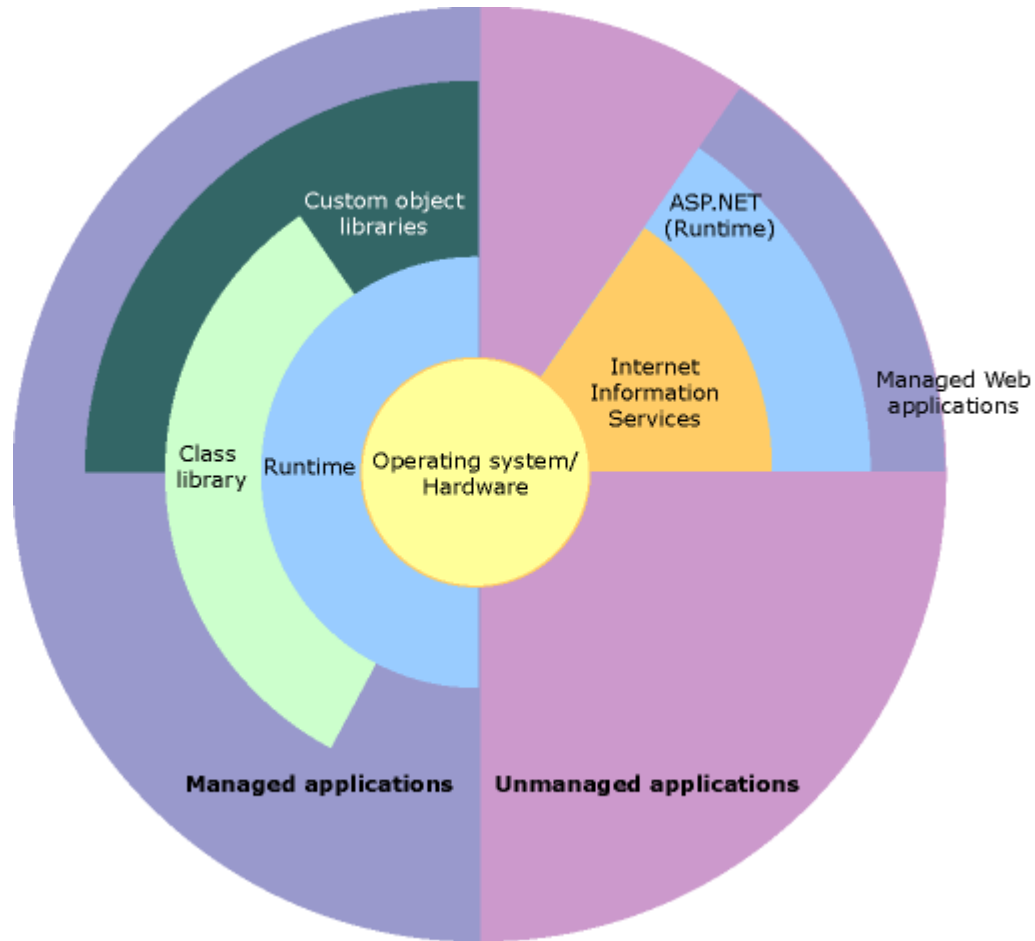
Visual C# Express Walkthrough

- Use wizard to create a C# program
- Build and run
- Intellisense feature
- MSDN lookup
- Debug

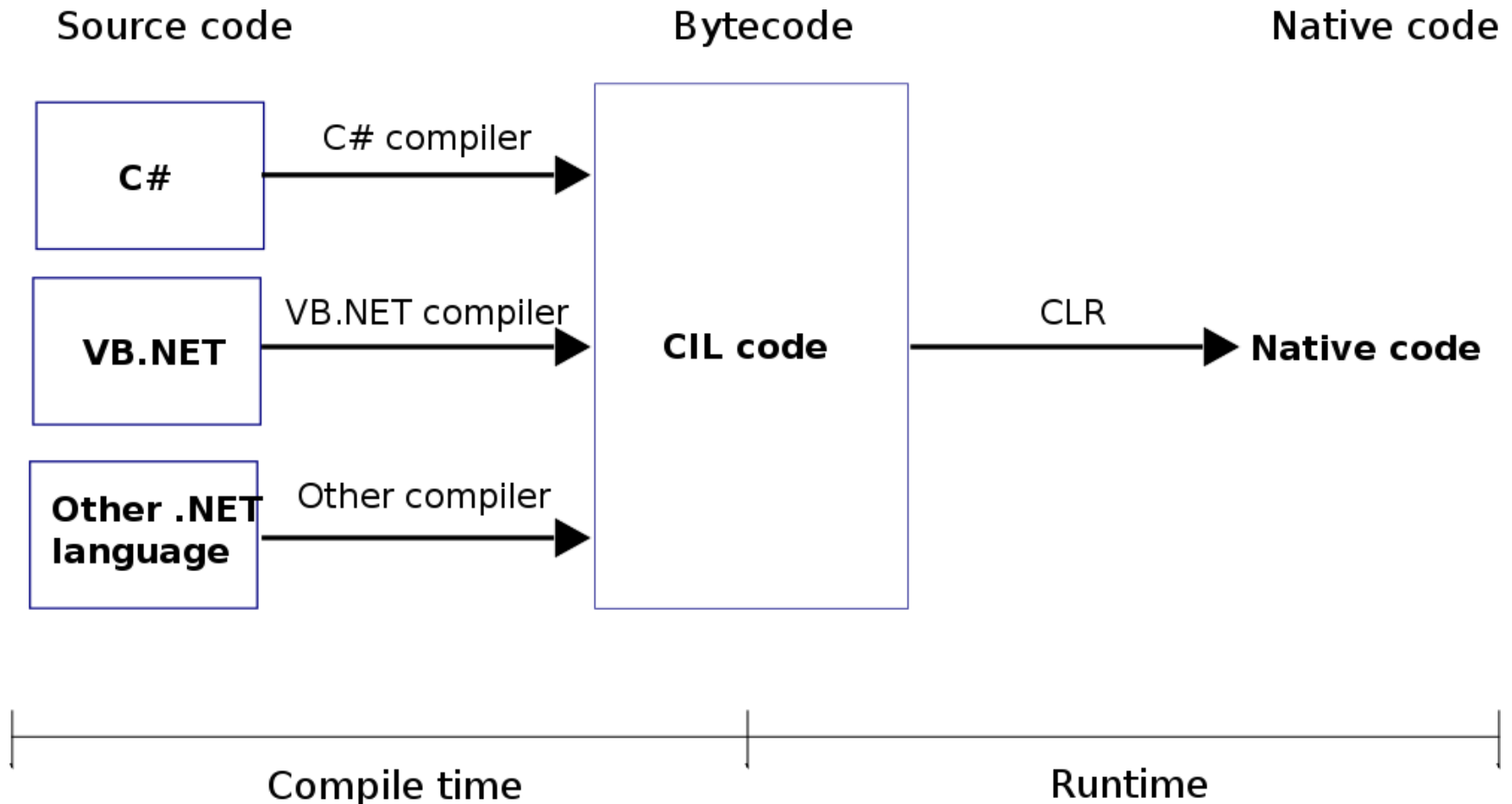
.Net

- A Common Language Runtime (CLR)
 - Virtual Machine like Java
 - C# compiles into Common Intermediate Language
 - All .NET languages compile into CIL
 - e.g. C#, F#, VB.net, IronPython, etc.
 - CIL runs on CLR
- A Common Type System (CTS)

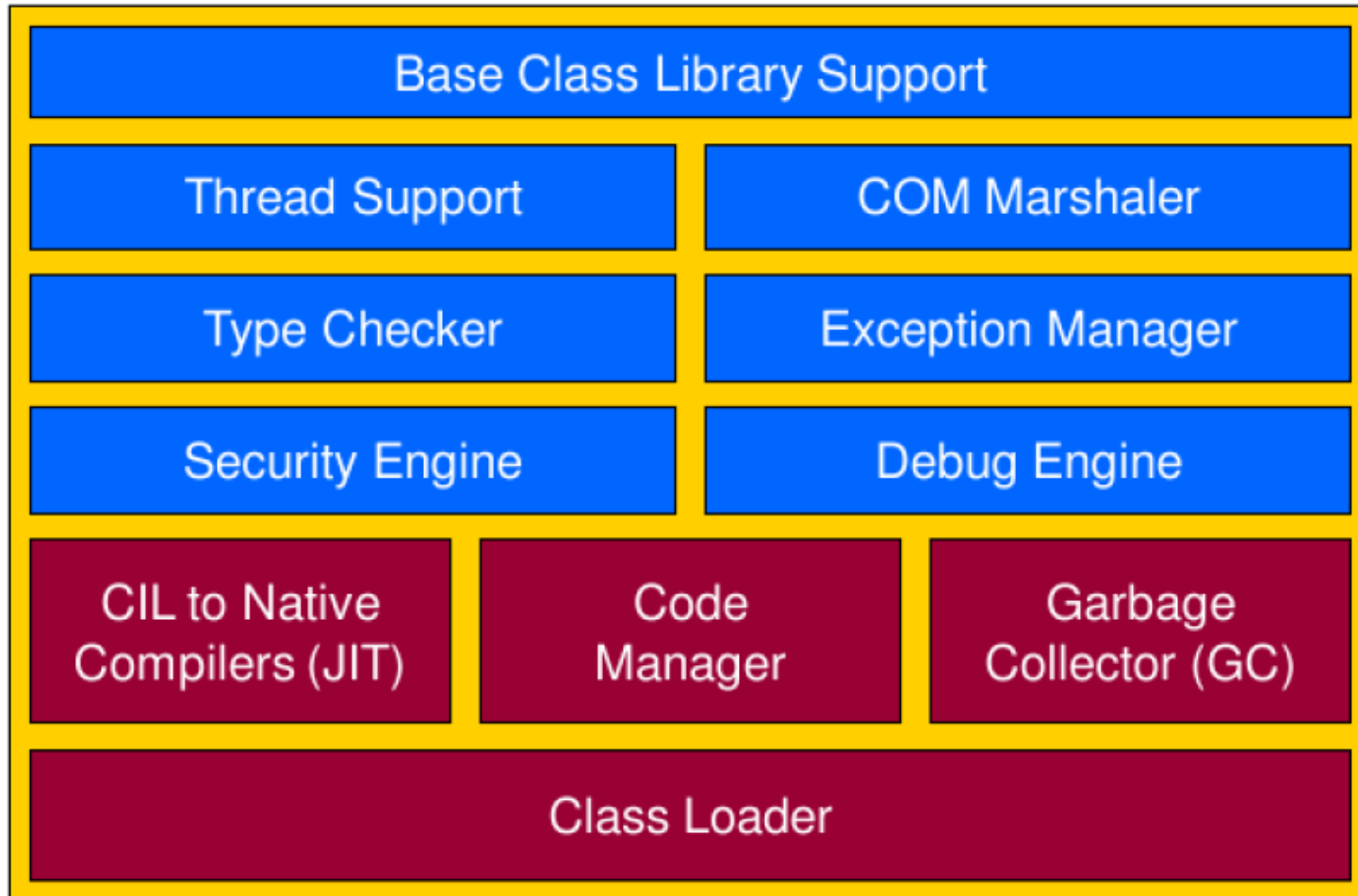
.Net Framework in Context



Common Language Runtime



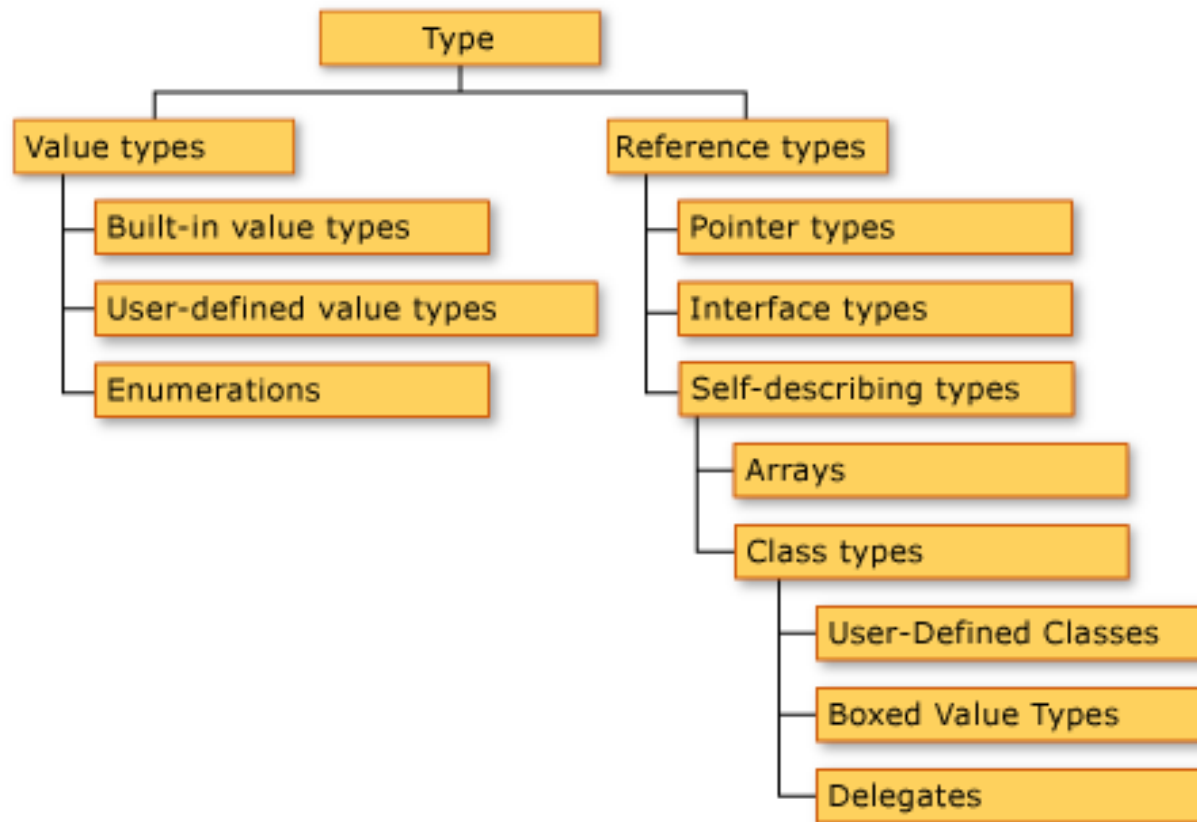
Common Language Runtime



Common Type System

- A set of common types
 - Any language that runs in the CLR should implement
 - No syntax specified
 - Languages often define type aliases
- Examples
 - CTS defines `System.Int32` – 4 byte integer
 - C# defines `int` as an alias of `System.Int32`
 - `string` → `System.String`
 - `object` → `System.Object`

Common Type System



C# Language Guide

■ Assignment

- `<variable name> = <expression>`

- `a = (1 + 4) * 5;`

■ If Statement

- `if (<condition>) {<statements>}`

- `if (1 < 2) {a = 5;}`

- `if (<condition>) {<statements>} else
{<statements>}`

- `If (1 > 2) {a = 5;} else {a = 10;}`

C# Language Guide

■ Loops

■ For loop

- `for (<initialization>; <termination test>; <make progress>) {<statements>}`
 - `for (int i = 10; i > 0; i--) {Console.WriteLine(i);}`

■ While loop

- `while (<condition>) {<statements>}`
 - `while (i > 0) {Console.WriteLine(i); i--;}`

■ Do-while loop

- `do {<statements>} while (<condition>)`
 - `do {Console.WriteLine(i); i--;} while (i > 0);`