SHIVA GAUTAM

INTRO TO C# LANGUAGE

What Is C#?

- C# is type-safe object-oriented language
- Enables developers to build a variety of secure and robust applications
- It was developed by Microsoft within the .NET Framework

Design Goals

- You can use C# to create traditional Windows client applications, XML Web services, distributed components, client-server applications, database applications, WPF, MVC, .NET CORE etc…
- The language provides support for software engineering principles such as strong type checking, array bounds checking, automatic garbage collection, etc…

History

- Was created in 1999 by principal designer and lead architect of Microsoft Anders Hejlsberg.
- Has gone through several versions currently at version 4.0(released 2010)

Features

- Very similar in syntax to C, C++, and Java.
- Syntax is highly expressive.
- Key features: nullable value type, enumerations, delegates, lambda expressions, and direct memory access

Advantages

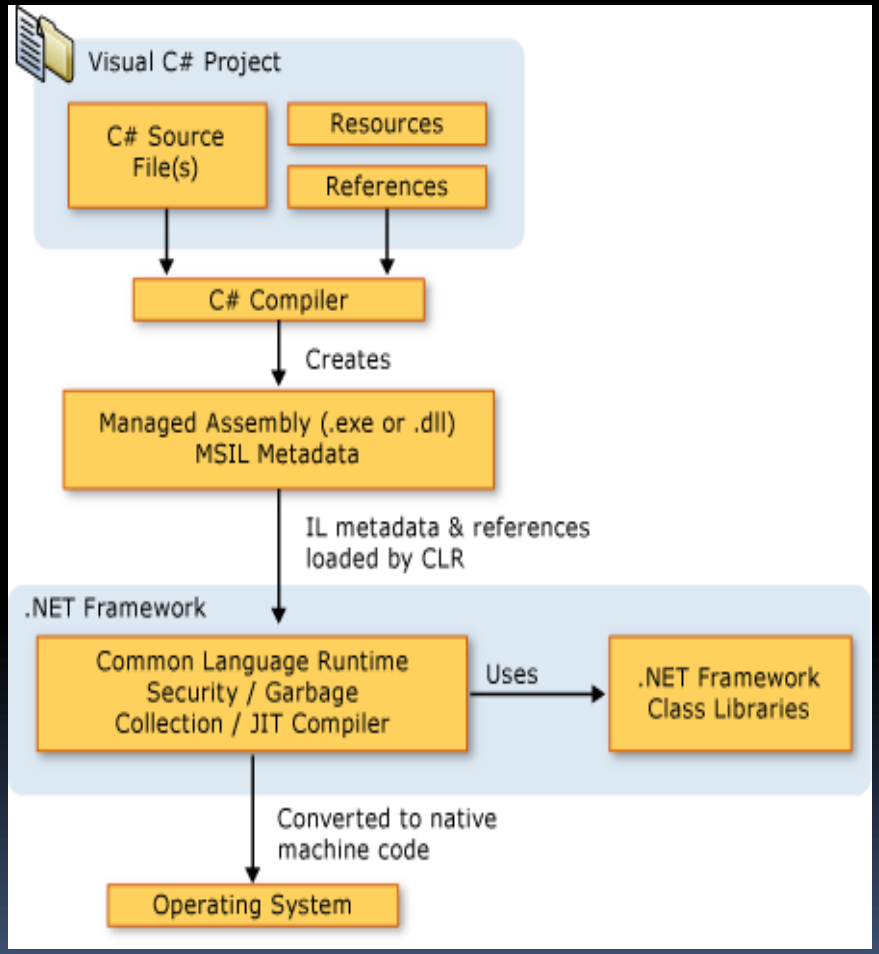
- Interoperability
  - "Interop" process enables C# programs to do almost anything that a native C++ application can do.
- Ease of Use
  - Syntax allows for users familiar with C, C++, or Java to easily start coding in C# very effortlessly.

Applications

- C# programs run on the .NET Framework which is an integral component of Windows that includes a virtual execution system called common language runtime (CLR).
- Likewise C# programs run on a unified set of class libraries as well.

Source code relationships

- The following diagram illustrates the compile-time and run-time relationships of C# source code files, the .NET Framework class libraries, assemblies, and the CLR.



Conclusion

- C# is an elegant and type-safe object-oriented language developed by Microsoft.
- Advantages vs. Disadvantages?
  - Advantages out weigh the disadvantages.
  - Proven reliable standard approved by the ISO & ECMA.
  - Proprietary to Microsoft.
  - The future for the language is promising continuing with updating versions.

Thank you!

- Q & A