**C# ASSIGNMENT ONE**

**1. The .NET Framework and C# have come a long way since their launch in 2002. Both have expanded to support multiple programming languages, and C# has become a popular choice for building Windows applications. Over the years, they've evolved with new features, improved performance, and better developer tools. It's been quite the journey, and it's exciting to see how these technologies continue to advance!**

**2. (i) Mono: It's an open-source implementation of the .NET Framework, allowing developers to build and run cross-platform applications.**

**(ii) Xamarin: It's a platform for building mobile applications using C# and .NET, providing tools for cross-platform development.**

**(iii) COM: It stands for Component Object Model, a Microsoft technology for building software components that can be used by different applications.**

**(iv) .NET Core: It's a cross-platform, open-source version of the .NET Framework, designed for building modern, high-performance applications.**

**(v) Unity C#: Unity is a popular game development platform, and C# is often used for scripting within Unity to create interactive and engaging games.**

**(vi) REST: It stands for Representational State Transfer, a software architectural style for creating web services that are lightweight, maintainable, and scalable.**

**3. The Common Language Runtime (CLR) has three key functions: managing memory by allocating and deallocating resources, enforcing type safety to prevent errors, and providing exception handling for robust error management. It also offers Just-In-Time (JIT) compilation for efficient code execution. These functions ensure smooth and secure operation of .NET applications.**