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LEVEL: HND 1

DEPARTMENT: COMPUTER SCIENCE

COURSE CODE: COM 316

C# Assignment

1. Write a short note on the evolution of .Net framework and C#(100 words)

The .NET framework and C# have undergone significant evolution since their inception. Introduced by Microsoft in the early 2000s, .NET initially focused on Windows applications. Over the years, it evolved to support cross-platform development, with the introduction of .NET Core in 2016. This shift emphasized open-source collaboration and enhanced performance. Concurrently, C# matured as a versatile language with features like asynchronous programming and pattern matching. The unification of .NET Core and the traditional .NET Framework into .NET 5 marked a pivotal moment, emphasizing a unified platform. Continuous updates and community engagement ensure the ongoing evolution of both technologies

2. Explain the follies terms; Mono ,Xamarin ,COM, .Net Core ,Unity C# , REST

Mono is an open-source implementation of Microsoft's .NET Framework. It allows developers to build and run cross-platform applications using C# and other .NET languages.

• Xamarin: Xamarin is a cross-platform app development framework that uses C# to write code. It allows developers to create native applications for Android, iOS, and Windows, sharing a significant portion of the codebase across platforms.

• COM (Component Object Model): COM is a binary-interface standard for software components introduced by Microsoft. It enables interprocess communication and dynamic object creation in a language-independent manner, often used in Windows development.

• .NET Core: .NET Core is an open-source, cross-platform framework for building modern, cloud-based, and internet-connected applications. It is a subset of the larger .NET framework, designed for flexibility and performance.

• Unity C#: Unity is a game development platform, and C# is one of the programming languages supported by Unity. Developers use C# to create scripts for game logic, behavior, and interactions within Unity game projects.

• REST (Representational State Transfer): REST is an architectural style for designing networked applications. It relies on a stateless communication model, often using HTTP, where clients and servers communicate through standard operations like GET, POST, PUT, and DELETE. RESTful APIs are common in web development for building scalable and maintainable systems.

3. Critically ,explain ANY three key functions of CLR (50 words)

The Common Language Runtime (CLR) in .NET serves crucial functions. Firstly, it manages memory, ensuring efficient allocation and deallocation. Secondly, it facilitates exception handling, enhancing robustness. Lastly, it enables language interoperability, allowing different .NET languages to seamlessly communicate and share objects, fostering a unified development environment.