C#(C SHARP)

19CSE100-PROBLEM SOLVING AND ALGORITHMIC THINKING

PROGRAMMING LANGUAGE SURVEY ASSIGNMENT

KARTHICK M

TIFAC CORE IN CYBER SECURITY

AMRITA VISHWA VIDYAPEETHAM

INTRODUCTION

C#, pronounced "C Sharp," is one of the languages in the .NET framework being implemented by Microsoft. All .NET languages compile to a common byte code (MSIL) making their integration into programs written in different languages easier.

ABOUT .NET FRAMEWORK

.NET framework is developed by Microsoft and it is a software framework. It runs mainly on Microsoft Windows. This framework also helped in the creation of various platforms that handled embedded devices, mobile computing, web browser plug-ins etc.

ANDERS HEJLSBERG

- The language was developed in the year 2000 by Microsoft's **Anders Hejlsberg,** a Danish software engineer with a history for popular creations. He was the original author of Turbo Pascal and the chief architect of Delphi. He currently works for Microsoft as the lead architect of C# and core developer on TypeScript

HELLO WORLD IN C#

```csharp
using System;

class Hello {
    static void Main( ) {
        Console.WriteLine("Hello world");
      Console.ReadLine();   // Hit enter to finish
    }
}
```

WHAT IS C#?

- Contrary to popular belief, C# is not simply a clone of or replacement for Java

- According to Anders Hejlsberg, Microsoft's Chief Architect, C# is a derivation of C++, C, Java, Modula 2, and Smalltalk

- C# combines the best features of these languages and eradicates some of their weaknesses

WHY CHOOSE C#?

- C# was designed from scratch with the .net framework in mind

- C# combines the power of C and C++ with the productivity of Visual Basic

- With its familiar syntax the transition for Java and C++ programmers will be an easy one

- C# is in sync with current web standards and is easily integrated with existing applications.

7

PURPOSE OF C#

- Like other general-purpose programming languages, C# can be used to create a number of different programs and applications: mobile apps, desktop apps, cloud-based services, websites, enterprise software and games. Lots and lots of games.

APPS MADE WITH C#

- Microsoft Visual Studio

- Paint.NET

- Open Dental

- KeePass

- FlashDevelop

- NMath

- Pinta

C# IS OBJECT-ORIENTED

- C# is completely object-oriented, which is a rare characteristic for a programming language. Many of the most common languages incorporate object orientation to an extent, but very few have accomplished the magnitude of C# without losing favor from the people.

- There are many different advantages to object-oriented programming (or OOP), such as efficiency and flexibility to name a few.

C# IS SCALABLE AND EASY TO MAINTAIN

- C# is a programming language that is remarkably scalable and easy to maintain. Because of the strict nature of how static codes must be written, C# programs are reliably consistent, which makes them much easier to adjust and maintain than programs that are written using other languages

ADVANTAGES OF C#

- One of the functionalities of C# is that it provides automatic garbage collection.

- Classes can be defined inside classes in C#.

- There is no need to declare functions and classes in C#.

- Classes and functions can be defined in any order in C#.

- All the variables in C# are automatically initialized to their default values before they are used.

DISADVANTAGES OF C#

- The code in C# needs to be compiled every time a change is made. This can lead to many errors or bugs if the code is not tested thoroughly each time.

- A .NET application needs a Windows platform to execute and this is also true for C# as it is a part of the .NET application. However, most of the companies Prefer a Linux server as it is cheaper.

- The older .NET frameworks are not supported by Microsoft after few upgrades to the operating system. Also, there are major costs associated with upgrades as they must be tested and approved before they can be deployed

THANK YOU