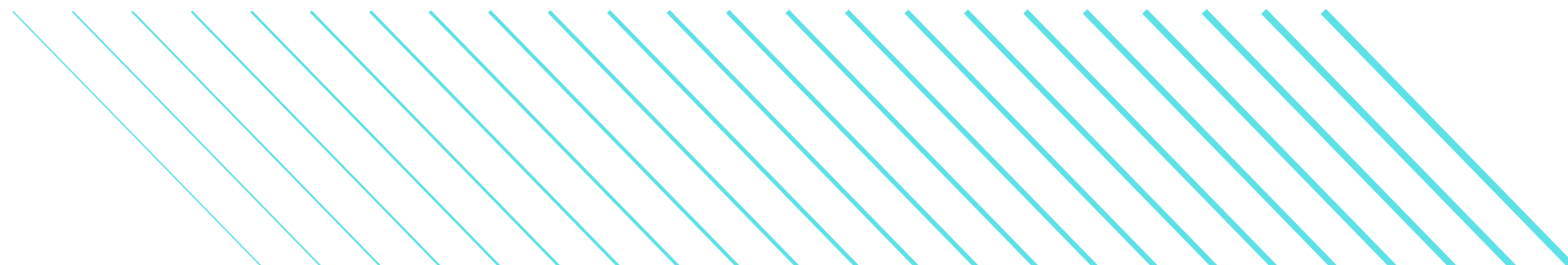
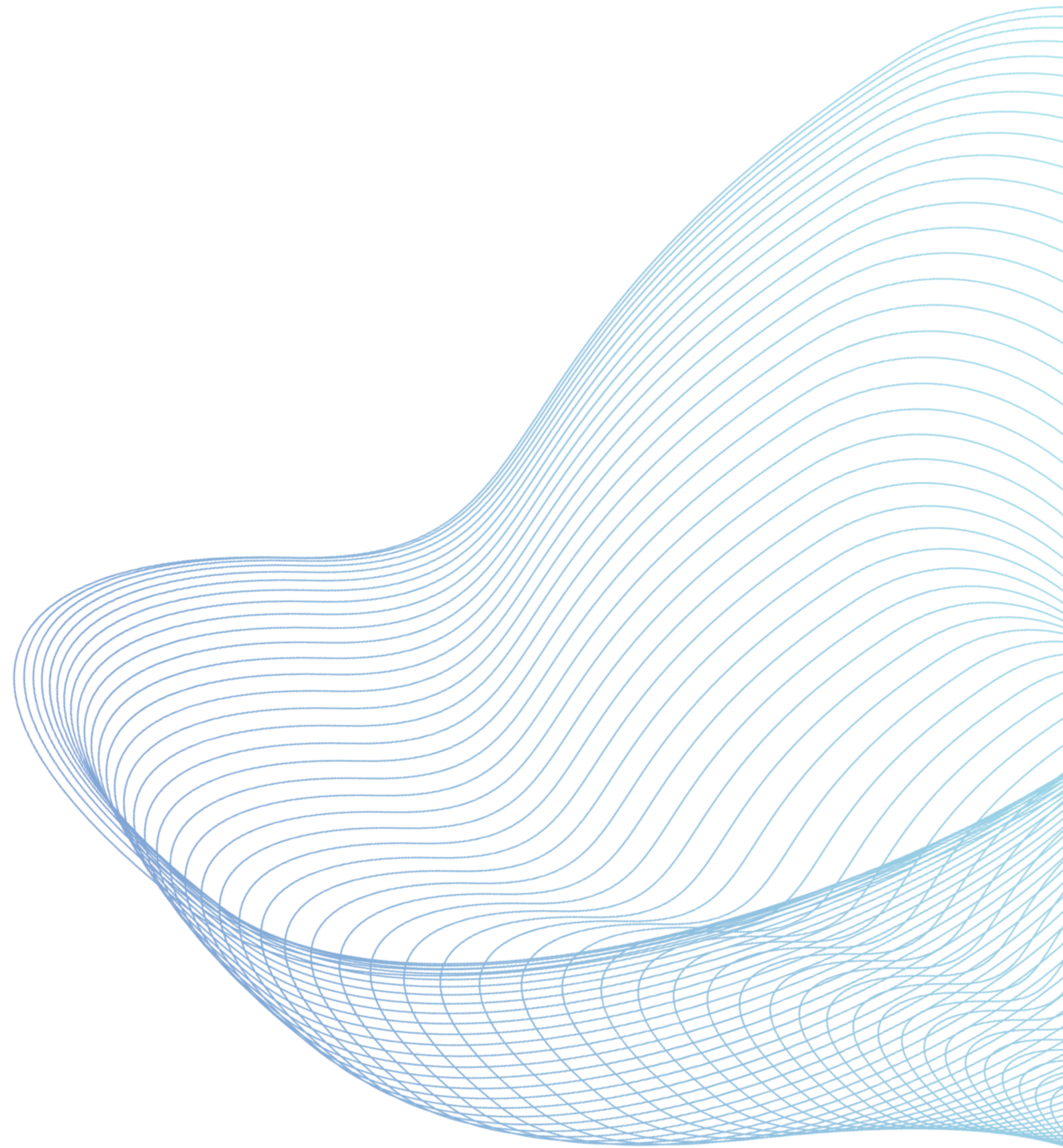


# LECTURE 1

## INTRODUCTION TO C#



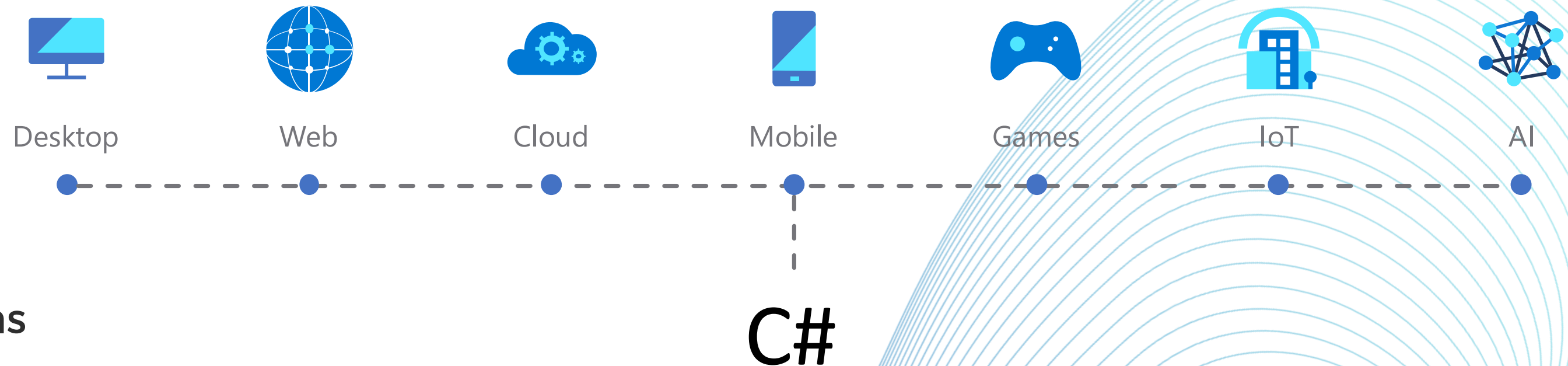
# WHAT IS C#?

- C# is pronounced "**C-Sharp**".
- It is an object-oriented programming language created by Microsoft that runs on the **.NET Framework**.
- C# has roots from the C family, and the language is close to other popular languages like C++ and Java.
- The first version was released in year 2002. The most recent stable version of the language is **C# 12.0**, which was released in 2023 along with the release of **.NET 8**.



# C# IS USED FOR :

- Mobile applications
- Desktop applications
- Web applications
- Web services
- Web sites
- Games
- VR
- Database applications



And much, much more!

# WHY USE C#?

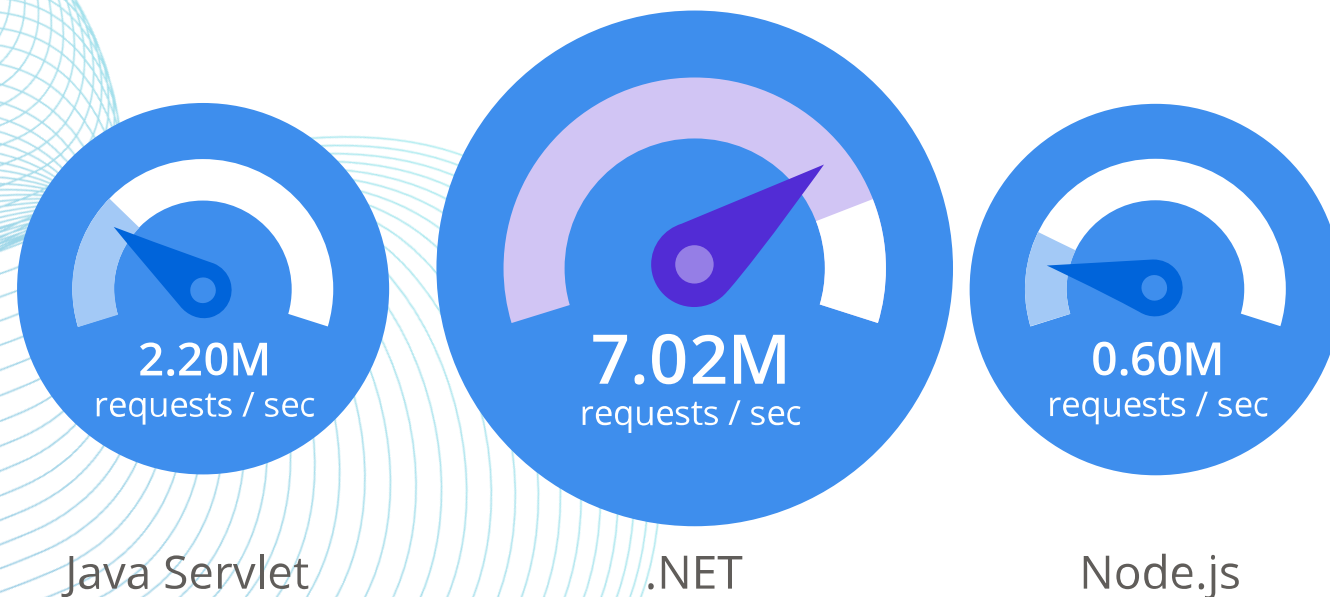
- 1 It is one of the most popular programming language in the world
- 2 It is easy to learn and simple to use and it has a huge community support
- 3 C# is an object oriented language which gives a clear structure to programs and allows code to be reused, lowering development costs
- 3 As C# is close to C, C++ and Java, it makes it easy for programmers to switch to C# or vice versa

# WHAT IS .NET?

- **C#** is a programming language.
- To build programs with C#, you need the .NET ("**dotnet**") platform
- **.NET** is a free, cross-platform, open source developer platform for building many different types of applications.
- .NET comes in two major flavors, **.NET Framework** for Windows and **.NET Core** for Windows/MacOS/Linux
- .NET is a framework of C#. Framework is collection of libraries. The latest version of the platform at the moment - **.NET 8**.



# WHY CHOOSE .NET?



1

With .NET, you can use multiple languages, editors, and libraries to build for web, mobile, desktop, games, IoT, and more.

2

.NET is fast. Really fast! That means applications provide better response times and require less compute power than any other popular framework .

3

Because .NET is open source, you can join the thousands of developers and companies already contributing to the .NET platform.

4

The .NET platform is officially supported by Microsoft and trusted by thousands of companies and millions of developers. Microsoft takes security very seriously and releases updates quickly when threats are discovered.

# WRITTEN POPULAR WEBSITE IN .NET



Bill Gates once said that the .NET platform is the best that Microsoft has created.



# CLI (COMMAND LINE INTERFACE)

The .NET **Command-Line Interface (CLI)** is a tool that allows developers to build, run, and manage applications using the .NET framework.

It provides a command-line interface that can be used on different operating systems, such as Windows, macOS, and Linux.

**CLI** stands for:

- Command Line Interface
- Command Line Interpreter
- Command Line Input



# SOME USABLE .NET CLI COMMANDS



terminal

```
dotnet new - Initializes a C# project for a given template.  
dotnet run - Runs the application from source.  
dotnet build - Builds a .NET application.  
dotnet clean - Clean build outputs.  
dotnet restore - Restores the dependencies for a given application.  
dotnet sln - Options to add, remove, and list projects in a solution file.  
dotnet add reference - Adds a project reference.
```

Here are links to get extra information about the topics :

- [\*\*Intro to C# and .NET\*\*](#)
- [\*\*First program in C# with CLI\*\*](#)