# Introduction to .NET

* It is a free, open-source development platform for a variety of applications (games, websites, consoles, etc.)
* Essentially, it is a collection of languages and libraries that can work together to build different types of software/application

## Different types of open-source developer platform

* .NET 5.0
  + The one you have right now
  + We are using this since it supports the most types of applications and platforms compared to the other two
* .NET core
  + Essentially the older version of .NET 5.0
* .NET framework
  + It is used to create windows-only desktop or server-based applications

## What is C#?

* It is an object-oriented and type-safe programming language
  + Object-oriented just means that everything is based on objects and the relationships between
  + Type-safe just means once you set a type you can’t change it
* It is one of the main languages that we will deal with when using the .NET

# Application Architecture

## Separation of Concern

* The concept of organizing our code
* We want our code to follow a certain theme of functionality
* We can do this by leveraging classes and other grouping mechanism to group data and logic together
* This is first but **important** step to writing readable, extendable, and maintainable

## Classes

* They are the building blocks of your code
* They are the blueprints of creating objects that you process in your program

## Namespace

* Logical grouping of types that follow a certain theme of functionality
* Grouping of classes

## Projects

* They contain all the files that are compiled into an executable, library, UI component, database.

## Solution

* It is a container for one or more related project
* Grouping of projects