

A (Belated) Welcome to C# 7.3



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Better late than never! Some of you may have noticed that C# 7.3 already shipped, back in Visual Studio 2017 update 15.7. Some of you may even be using the features already.

C# 7.3 is the newest point release in the 7.0 family and it continues themes of performance-focused safe code, as well as bringing some small "quality of life" improvements in both new and old features.

For performance, we have a few features that improve **ref** variables, pointers, and **stackalloc**. **ref** variables can now be reassigned, letting you treat **ref** variables more like traditional variables. **stackalloc** now has an optional initializer syntax, letting you easily and safely initialize stack allocated buffers. For struct fixed-size buffers, you can now index into the buffer without using a pinning statement. And when you do need to pin, we've made the **fixed** statement more flexible by allowing it to operate on any type that has a suitable **GetPinnableReference** method.

For feature improvements, we've removed some long time restrictions on constraints to **System.Enum**, **System.Delegate**, and we've added a new **unmanaged** constraint that allows you to take a pointer to a generic type parameter. We've also improved overload resolution (again!), allowed **out** and pattern variables in more places, enabled tuples to be compared using **==** and **!=**, and fixed the **[field:]** attribute target for auto-implemented properties to target the property's backing field.

All of these features are small additions to the language, but they should make each of these parts of the language a little easier and more pleasant. If you want more details, you can see the 15.7 [release notes](#) or check out the documentation for [What's new in C# 7.3](#).

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