

# C# 9 cheat sheet

## Records

```
public record Person(string FirstName, string LastName);
```

## Init only setters

```
public struct WeatherObservation
{
    public DateTime RecordedAt { get; init; }

    public decimal TemperatureInCelsius { get; init; }

    public decimal PressureInMillibars { get; init; }
}
```

## Top-level statements

```
using System;
Console.WriteLine("Hello World!");
```

## Pattern matching enhancements

```
public static bool IsLetterOrSeparator(this char c) =>
    c is (>= 'a' and <= 'z') or (>= 'A' and <= 'Z') or '.' or ',';
```

## Target-typed new expressions

```
Dictionary<string, List<int>> field = new() {
    { "item1", new() { 1, 2, 3 } }
};
```

## static anonymous functions

```
const int y = 1;
MyMethod(static x => x + y);
```

## Lambda discard parameters

```
(_, _) => 0
```

## Attributes on local functions

```
static void Main(string[] args)
{
    DebugMessage();

    [Conditional("DEBUG")]
    static void DebugMessage() => Console.WriteLine("Debug only message");
}
```