C# 12 cheat sheet

**Primary constructors**

public class Person(string name, int age)

{

public void Deconstruct(out string name, out int age) =>

(name, age) = (this.name, this.age);

}

**Collection expressions**

int[] numbers = [1, 2, 3];

List<string> names = ["Alice", "Bob"];

var combined = [..numbers, 4, 5];

**Alias any type (using directive)**

using MyList = System.Collections.Generic.List<string>;

MyList names = new() { "A", "B" };

**Inline arrays (unmanaged)**

[InlineArray(3)]

public struct SmallBuffer

{

private int \_element0;

}

SmallBuffer buffer = new();

buffer[0] = 10;

**Default lambda parameters**

Func<int, int, int> adder = (a, b = 5) => a + b;

Console.WriteLine(adder(2)); // Output: 7

**Ref readonly parameters**

void Print(in readonly Span<byte> data)

{

foreach (var b in data)

Console.Write($"{b} ");

}

**Params span overloads**

void Print(params ReadOnlySpan<int> numbers)

{

foreach (var number in numbers)

Console.Write($"{number} ");

}

Print([1, 2, 3]);