

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]);
```