

C# Programming Reference Sheet

Built In Data Types & Literals

Integers

Int, short, long

Floating Point Numbers

Float, double, decimal

Strings and Characters

String, char

Boolean

Bool

Working with Strings

Assignment (giving a string a value)

```
string _a = "Hello"
```

Concatenation (joining strings)

```
string _b = a + " World!"
```

Comparison

```
string.Compare(_a, _b)
```

Construction from other types:

```
otherType.ToString()
```

Simple Programming Statements

Constant declaration

```
const int months = 12
```

Variable declaration

```
int months
```

Assignment

```
myName = "Bob"
```

Method call

```
myMessage = new Message("Bye")
```

Sequence of statements - grouped

```
{}
```

Structured Programming Statements

If statement

```
if (true) {...}
```

Case statement

```
switch(var) {case 1: break;...}
```

While loop

```
while (i < 5) {...}
```

Repeat loop

```
do {...} while (a < 20)
```

For loop

```
for (int i = 0; i < count; i++)
```

Declaring Methods

Declare a method with parameters:

```
public Message(string text)
```

Declare a method that returns data:

```
public Message()
```

Pass by reference:

```
public Message(ref String text)
```

Boolean Operators and Other Statements

Comparison: equal, less, larger, not equal, less eq

```
== < > >= <=
```

Boolean: And, Or and Not

```
&& || !=
```

Skip an iteration of a loop

```
continue;
```

End a loop early

```
break;
```

End a method:

```
return;
```

Custom Types

Classes

```
public class Message(string message)
```

Enumerations

```
enum Day {sat, sun, mon, tues}
```

Structs

```
public struct Point2d {  
    int _x, _y  
    public Point2d(int x, int y) {...}
```

Arrays

Declaration

```
String[] Message = new String[5]
```

Access

```
Message[0]
```

Loop with index i

```
for(int i = 0; i < 5; i++) {  
    ...message[i]...
```

For each loop

```
foreach(string str in message) {...
```

Programs and Modules

Creating a program

```
namespace program  
class mainclass {}
```

Using a class from a library

```
using SwinGameSDK;
```

Other Things

Reading from Terminal

```
Console.ReadLine();
```

Writing to Terminal

```
Console.WriteLine("Hello, World!")
```

Comments

```
// single line comments  
/* multi line comments */
```