# C# Programming Reference Sheet

Built In Data Types & Literals

Integers:

byte, sbyte, int, uint, long, ulong, short, ushort

Floating Point Numbers:

decimal, double, float

Strings and Characters:

char, string

Boolean:

bool

Working with Strings

Assignment (giving a string a value)

string strA = “Hello, ”

Concatenation (joining strings)

string strB = strA + “nice to meet you.”

Comparison

strA == strB, or string.Compare(strA, strB)

Construction from other types:

otherType.ToString()

Programs and Modules

Creating a program

namespace Program

class MainClass {}

Using a class from a library

#include SwinGameAPI;

Custom Types

Classes

public class Message(string message)

Enumerations

enum Month {jan, feb, mar, apr}

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 = 1; i < 4; i++) {

…message[i]…

For each loop

foreach(string str in message) {…

Other Things

Reading from Terminal

Console.ReadLine();

Writing to Terminal

Console.WriteLine(“Hello World”)

Comments

// or /\*\*/

Declaring Methods

Declare a method with parameters:

static void MyMethod(string fname)

Declare a method that returns data:

public int Addition(int a, int b)

Pass by reference:

public void Subtraction(ref int a);

//ref is two-way

void Subtraction(ref int a);

//out is out-only

Simple Programming Statements

Constant declaration

public const int Hours = 24;

Variable declaration

public int Minutes;

Assignment

Minutes = Hours \* 60;

Method call

Console.WriteLine(“Unit COS20007”);

Sequence of statements - grouped

{}

Structured Programming Statements

If statement

If (a == b) {}

Case statement

switch (caseSwitch) {case 1: break}

While loop

while (n > 1) {}

Repeat loop

do {} while (n < 5)

For loop

for (int i = 0; i < 5; i++)

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;