# 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 + “World!”

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 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) {…

Other Things

Reading from Terminal

Console.ReadLine();

Writing to Terminal

Console.WriteLine(“Hello, World!”)

Comments

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Declaring Methods

Declare a method with parameters:

public void SayHello(string name)

Declare a method that returns data:

public int Multiply(int a, int b)

Pass by reference:

public void Square(ref int a); void Square(out int a). ref is two-way, out is out-only.

Simple Programming Statements

Constant declaration

public const double PI = 3.141;

Variable declaration

public int radius;

Assignment

Radius = PI / 5;

Method call

console.WriteLine(“Hello!”);

Sequence of statements - grouped

{ }

Structured Programming Statements

If statement

If (a == b) {}

Case statement

switch (caseSwitch) { case 1: break}

While loop

while (n < 5) {}

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;