C# Programming Reference Sheet

Built In Data Types & Literals

Integers
```
int, uint, long, ulong (eg: 5,12,22,23
```
Floating Point Numbers
float, double (eg: 6, 5.5)
Strings and Characters
```
string, char (eg: 'check', 'k')
```
Boolean
```
bool (eg: True, False)
```

Working with Strings

Assignment (giving a string a value)
```
Test = "Hello World"
```
Concatenation (joining strings)
```
string Test= "hello" + "world";
```
Comparison
```
rhc == rhc
```
Construction from other types:
```
string strx = x.ToString();
```

Simple Programming Statements

Constant declaration
```
private const int days = 14;
```
Variable declaration
```
int I = 0;
```
Assignment
```
a=1;
```
Method call <Access Specifier> <Return Type> <Method Name>(Parameter List) {Method Body}

e.g
```
public int Value(int num1, int num2) {…}
```
Sequence of statements - grouped
```
{ }
```

Structured Programming Statements

If statement
```
if (right)then {} else …
```
Case statement
```
switch (x) {case1: Console.Writeln ("Case1"); break; case 2: ….; break; }
```
While loop
```
while (this is John) do {…; i++}
```
Repeat loop
```
do{x+1; x++;} while (x<9);
```
For loop
```
for (int i = 0; i < 5; i++)
```

Declaring Methods

Declare a method with parameters:
```
public int SubTwoNumbers(int number1, int number2){}
```
Declare a method that returns data:
```
public int SubTwoNumbers(int number1, int number2)
    {return number1 - number2;}
```
Pass by reference:
```
arg = 4;
 Ref(ref arg1);
 Console.WriteLine(arg1);
```

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 Cards
```
Enumerations
```
enum Genre {rap, swing, jazz, country};
```

Structs
```
struct Movie{   public string title; public string actor;}
```

Arrays

Declaration
```
int [ ] numbers;
```
Access
```
Number[0]=11
```
Loop with index i
```
for(i=5;i<7;i++){number[i]=i;}
```
For each loop
```
foreach (int num1 in num2){}
```

Programs and Modules

Creating a program
```
class MainClass
{ public static void Main()
{ }
```
Using a class from a library
```
using GameGuideSDK;
public void Line ()
{
GameGuide.FillRectangle (_color, _x, _y, _width, _height);}
```

Other Things

Reading from Terminal
```
Console.Readline()
```
Writing to Terminal
```
Console.Writeline()
```
Comments
```
//Single line Comment
/*  …….. */
```