Swinburne University of Technology

Object Oriented Programming (2022 S1)

Doubtfire Submission

Task 1.3P: C# Language Reference Sheet

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C# Programming Reference Sheet

Built In Data Types & Literals

Integers
```
Int (5)
```
Floating Point Numbers
```
float (2.4)
```
Strings and Characters
```
string ("good") char ('g')
```
Boolean
```
bool(True/False)
```

Working with Strings

Assignment (giving a string a value)
```
string favfood = "Subway"
```
Concatenation (joining strings)
```
Concatenation= "My fav food is " + favfood ;
```
Comparison
```
if (favfood == "Subway") {}
```
Construction from other types:
```
int inNum = 5;
string stNum = inNum.ToString();
```

Simple Programming Statements

Constant declaration
```
const int Pi = 3.14;
```
Variable declaration
```
string favfood; int quantity;
```
Assignment
```
favfood = "Subway" ; quantity = 1;
```
Method call
```
Console.WriteLine(string);
```
Sequence of statements - grouped
```
{}
```

Structured Programming Statements

If statement
```
if (age > 20) {}
```
Case statement
```
switch(expression){case x:b; case y:
b;default: b;} where b= break
```
While loop
```
while (age > 20) {}
```
Repeat loop
```
do {} while (age > 20)
```
For loop
```
for (statement 1;statement 2;statement 3) {}
```

Declaring Methods

Declare a method with parameters:
```
void Method (){}
```
Declare a method that returns data:
```
string Method(){return "Hello";}
```
Pass by reference:
```
int x = 14;
multiplication(ref x);
```

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
{
  private string text;
  public Message(string txt){}
```
Enumerations
```
enum Speed{Fast, Moderate, Slow}…
Speed enumVar = Speed.Average;
```
Structs
```
Public struct type {
        Public type x;}
```

Arrays

Declaration
```
string[] bags = new string [size];
```
Access
```
string[] bags= {"Prada", "LV", "Gucci"}
Console.WriteLine(bags [0]); Output: Prada
```
Loop with index i
```
for( int i = 0; i < bags.Length; i +=1){}
```
For each loop
```
foreach (string i in bags){}
```

Programs and Modules

Creating a program
```
Static void Main(String[] args){}
```
Using a class from a library
```
Message myMessage;
myMessage = new Message(args);
```

Other Things

Reading from Terminal
```
Console.ReadLine();
```
Writing to Terminal
```
Console.WriteLine();
```
Comments
```
//Not parsed
```