

**Revision Sheets for Final Exam – ICT****Grade 12**

✓ **Object-oriented** programming (OOP) is a programming language model organized around **objects** rather than "actions" and data rather than logic. Historically, a program has been viewed as a logical procedure that takes input data, processes it, and produces output data.

**✓ The reasons make C# a widely used professional language :**

- It is a modern, general-purpose programming language
- It is object oriented.
- It is component oriented.
- It is easy to learn.
- It is a structured language.
- It produces efficient programs.
- It can be compiled on a variety of computer platforms.
- It is a part of .Net Framework.

**✓ important features of C# :**

- Boolean Conditions
- Automatic Garbage Collection
- Standard Library
- Assembly Versioning
- Properties and Events
- Delegates and Events Management
- Easy-to-use Generics

**✓ A C# program consists of the following parts :**

- Namespace declaration
- A class

- Class methods
- Class attributes
- A Main method
- Statements and Expressions
- Comments

### ✓ **Compiling and Executing the Program:**

- Start Visual Studio.
- On the menu bar, choose File -> New -> Project.
- Choose Visual C# from templates, and then choose Windows.
- Choose Console Application.
- Specify a name for your project and click OK button.
- This creates a new project in Solution Explorer.
- Write code in the Code Editor.
- Click the Run button or press F5 key to execute the project.
- A Command Prompt window appears that contains the line Hello World.

+ **Classes** generally contain multiple methods.

+ **Methods** define the behavior of the class.

+ **comments** /\*...\*/ is ignored by the compiler and it is put to add some comments in the program.

+ The **multiline comments** in C# programs start with /\* and terminates with the characters \*/ as shown below –

+ /\* This program demonstrates The basic syntax of C# programming Language which include many classes \*/

+ **Single-line comments** are indicated by the //' symbol. For example,

+ //end class Rectangle

### ✓ **note the following points :**

- C# is case sensitive.

- All statements and expression must end with a semicolon ;
- The program execution starts at the Main method.
- Unlike Java, program file name could be different from the class name.

✓ **Variables are attributes or data members of a class, used for storing data.**

✓ **The variables in C#, are categorized into the following types :-**

- Value types
- Reference types
- Pointer types

✓ **C# Keywords**

- Keywords are reserved words predefined to the C# compiler. These keywords cannot be used as identifiers. However, if you want to use these keywords as identifiers, you may prefix the keyword with the @ character.
- In C#, some identifiers have special meaning in context of code, such as get and set are called contextual keywords.

Reserved Keywords						
abstract	as	base	bool	break	byte	case
catch	char	checked	class	const	continue	decimal
default	delegate	do	double	else	enum	event
explicit	extern	false	finally	fixed	float	for
foreach	goto	if	implicit	in	in (generic modifier)	int
interface	internal	is	lock	long	namespace	new
null	object	operator	out	out (generic modifier)	override	params
private	protected	public	readonly	ref	return	sbyte
sealed	short	sizeof	stackalloc	static	string	struct
switch	this	throw	true	try	typeof	uint
ulong	unchecked	unsafe	ushort	using	virtual	void
volatile	while					

Contextual Keywords						
add	alias	ascending	descending	dynamic	from	get
global	group	into	join	let	orderby	partial (type)
partial (method)	remove	select	set			

1- Variables are initialized (assigned a value) with an equal sign followed by a constant expression. The general form of initialization is :-

**variable\_name = value;**

2- Accepting Values from User

The **Console** class in the **System** namespace provides a function **ReadLine()**

for accepting input from the user and store it into a variable.

For example,

```
int num;  
num = Convert.ToInt32(Console.ReadLine());
```