

Revision Slides - Y7

Contents

Slide No.	Topic
3	General Information about Python and Programming
4	Arithmetic Operators
5	Boolean Operators
6	Datatypes
7	Programs and Variables
8	Programs - IF Statement - SELECTION Statement
9	Programs - 1-D Arrays or Lists
10	Programs - Syntax Errors

General Information about Programming

(1) We are programming in the programming language Python.

**(2) We are writing the Python programs in the Python IDLE editor.
IDLE stands for Integrated Development Learning Environment.**

**(3) There are numerous other programming languages such as Java,
Visual Basic, C#, C++, R.**

(4) Python is an example of a High Level Programming Language.

**(5) Now, the Computer actually does not understand High Level Languages
And they have to be translated into Low Level Language/Machine Code/Binary
And it is that the computer understands.**

Arithmetic Operators

No.	Symbol	Information	Example	Answers
1	+	Addition	6+2	8
2	-	Substraction	10 - 6	4
3	*	Multiplication	4 * 5	20
4	/	Division	10/2	5
5	**	Exponent	2**3	2*2*2 = 8
6	**	Exponent	4**2	4*4 = 16
7	%	Modulus	10%3	1 (This is the <u>remainder when one number is divided by another</u>).
8	%	Modulus	20%5	0
9	//	Integer Division	9//2	4 (This is the <u>quotient when one number is divided by another</u>).
10	//	Integer Division	10//2	5

Boolean Expressions

No.	Symbol	Information	Example	Answers
-----	--------	-------------	---------	---------

1	>	Greater than	10 > 6	TRUE
---	---	--------------	--------	------

3	<	Less than	4 < 7	FALSE
---	---	-----------	-------	-------

Datatypes

No.	Datatype	Description	Examples
1	Integer	This is a whole number	2,3,99, -100, -6
2	Real or Float	This are numbers with decimal points in them.	3.4,5.6, 100.2
3	Character	A single symbol	'A', 'b', '?'
4	String	A group of characters	'Chocolate'
5	Boolean	Takes one of two values	True or False
6	Date	A date	19/1/2020 19th January 2020

Programs and Variables

Line 1	Apple = 20	<u>Output</u>
Line 2	Number = 10	200
Line 3	Total = Apple * Number	
Line 4	print(Total)	

Please note the following about the program

(1) The Program has 3 variables.

(2) The variables are Apple, Number and Total

(3) Line 4 results in the output.

Programs - Selection Statement - the IF Statement

```
Line 1    Age = int(input("How old are you?"))
Line 2    if Age >=18:
Line 3        print("You are old enough to vote")
Line 4    else:
Line 5        print("You are too young to vote")
```

Output

How old are you? 12

You are too young to vote

Please note the following about the program

- (1) The program has 1 variable and that is 'Age'.
- (2) The '>=' symbol is the greater than or equal to symbol.
- (3) Line 1 is inviting the user to input an integer.
- (4) The IF statement has two branches to it, i.e. there are 2 options for it.
- (5) The IF statement is a type of **SELECTION statement.**

Programs -1-D Arrays (or Lists)

Line 1	<code>Foods = ["eggs", "Pizza", "Pasta"]</code>	<u>Output</u>
Line 2	<code>for Food in Foods:</code>	<code>I like eggs</code>
Line 3	<code>print (" I like ", Food)</code>	<code>I like Pizza</code> <code>I like Pasta</code>

Please note the following about the program

(1) The array is called Foods

(2) There are 3 items in the array Foods.

(3) Now,
`Foods[0] = "eggs",`
`Foods[1] = "Pizza",`
`Foods[2] = "Pasta"`

(4) 0,1 and 2 are known as indexes

(5) Note that we are starting to count from zero.

(6) Python is known as a 'zero₉based language'.

Examples of Programs with Syntax Errors

Program 1 with Error

```
pint("Hello World")
```



Here pint should be print.
A keyword is mis-spelt.



Program 1 Corrected

```
print("Hello World")
```

Program 2 with Error

```
print("Hello World)
```



Missing Quotation Marks



Program 2 Corrected

```
print("Hello World")
```

Program 3 with Error

Line 1 For j in range(5):

Line 2 print(j)



Line 2 should be indented.



Program 3 Corrected

```
For j in range(5):  
    print(j)
```

That's all for now folks!!