

Year 9 Knowledge Organiser - Programming

Pseudo Code			Algorithms Key Terms		Operators															
<u>Pseudo Code</u>	<u>Example</u>	<u>Python</u>	Algorithm	<i>A series of steps used to complete a task.</i>	=	<i>Assigns a value to a variable.</i>														
OUTPUT	OUTPUT "Hello"	Print ("Hello")	Abstraction	<i>Removing any necessary detail from an algorithm.</i>	==	<i>Exactly equal to.</i>														
←	School ← "Turton"	School = "Turton"	Decomposition	<i>Breaking a set of instructions down into smaller sections.</i>	!= <>	<i>Not equal to.</i>														
INPUT	School ← USERINPUT	School = input()	Pseudocode	<i>A human-like language used to plan and design algorithms.</i>	>	<i>Greater than.</i>														
IF	IF School == "Turton"	if school == "Turton":	Flowcharts	<i>A diagrammatical representation of a flowchart.</i>	>=	<i>Greater than or equal to.</i>														
ELSE	OUTPUT "Turton"	print ("Bolton")	<table border="1"> <thead> <tr> <th colspan="2">Data Types</th> </tr> <tr> <th>Data Type</th> <th>Example</th> </tr> </thead> <tbody> <tr> <td>String</td> <td><i>0+ characters e.g. A-Z, a-z, 0-9, symbols, taken to be one whole value (doesn't see it as individual characters).</i></td> </tr> <tr> <td>Character</td> <td><i>A single character e.g. A-Z, a-z, 0-9, symbols.</i></td> </tr> <tr> <td>Integer</td> <td><i>A whole number, positive or negative.</i></td> </tr> <tr> <td>Float, Real</td> <td><i>Number with a floating point value e.g. 2.5</i></td> </tr> <tr> <td>Boolean</td> <td><i>True or False</i></td> </tr> </tbody> </table>				Data Types		Data Type	Example	String	<i>0+ characters e.g. A-Z, a-z, 0-9, symbols, taken to be one whole value (doesn't see it as individual characters).</i>	Character	<i>A single character e.g. A-Z, a-z, 0-9, symbols.</i>	Integer	<i>A whole number, positive or negative.</i>	Float, Real	<i>Number with a floating point value e.g. 2.5</i>	Boolean	<i>True or False</i>
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IF	IF School == "Canon"	elif school == "Canon":																		
ELSE	OUTPUT "Canon"	print ("Canon")																		
ELSE	ELSE	else:																		
	OUTPUT "Neither"	print ("Neither")																		
WHILE	WHILE School <> "Canon"	while school != "Canon":																		
	OUTPUT "Not Cannon"	print ("Not Canon")																		
FOR	For i in range (5):	for i in range (5):																		
	OUTPUT (i)	print (i)																		
DATA TYPES	**Don't need to declare in pseudo**	Name = str(" ")																		
			Programming																	
			Sequence	<i>Ordered instructions.</i>	String	<i>Data type containing characters.</i>														
			Selection	<i>Choose between two options of code.</i>	Integer	<i>Data type containing whole numbers.</i>														
			Iteration	<i>Repeats lines of code.</i>	Float / Decimal / Real	<i>Data type containing decimal numbers.</i>														
			Inputs	<i>Data received from the user.</i>	Boolean	<i>Data type containing True/False values.</i>														
			Outputs	<i>Data displayed to the user.</i>	Subroutines	<i>Self-contained section of code.</i>														
			Variables	<i>Locations in memory which store values.</i>	Concatenation	<i>Joining to strings (or values) together.</i>														