

Concept	Keyword(s)/Symbols	Example
Commenting		
Comment	//	//This function squares a number function squared(number) squared = number^2 return squared endfunction //End of function
Variables		
Assignment	=	x = 3 name = "Louise"
Constants	const	const vat = 0.2
Global Variables	global	global userID = "Cust001"
Input/Output		
Input	input (...)	myName = input("Please enter a name")
Output	print (...)	print("My name is Noni") print(myArray[2,3])
Casting		
Converting to another data type	str()	str(345)
	int()	int("3")
	float()	float("4.52")
	real()	real("4.52")
	bool()	bool("True")

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Iteration		
FOR loop (Count-controlled)	for ... to ...	for i=0 to 9
		print("Loop")
	next ...	next i
		This will print the word "Loop" 10 times, i.e. 0-9 inclusive.
	for ... to ... step ...	for i=2 to 10 step 2
		print(i)
	next ...	next i
		This will print the even numbers from 2 to 10 inclusive.
		for i=10 to 0 step -1
		print(i)
		next i
		This will print the numbers from 10 to 0 inclusive, i.e. 10, 9, 8,..., 2, 1, 0.
		Note that the 'step' command can be used to increment or decrement the loop by any positive or negative integer value.
WHILE loop (Condition-controlled)	while ...	while answer != "Correct"
	endwhile	answer = input("New answer") endwhile
		Will loop until the user inputs the string "Correct". Check condition is carried out before entering loop.
DO UNTIL loop (Condition-controlled)	do	do
	until ...	answer = input("New answer") until answer == "Correct"
		Will loop until the user inputs the string "Correct". Loop iterates once before a check is carried out.

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Selection		
IF-THEN-ELSE	<pre>if ... then elseif ... then else endif</pre>	<pre>if answer == "Yes" then print("Correct") elseif answer == "No" then print("Wrong") else print("Error") endif</pre>
CASE SELECT or SWITCH	<pre>switch ... : case ... : case ... : default: endswitch</pre>	<pre>switch day : case "Sat": print("Saturday") case "Sun": print("Sunday") default: print("Weekday") endswitch</pre>

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String handling/operations		
String length	.length	<pre>subject = "ComputerScience" subject.length gives the value 15</pre>
Substrings	<pre>.substring(x , i) .left(i) .right(i)</pre>	<pre>subject.substring(3,5) returns "puter" subject.left(4) returns "Comp" subject.right(3) returns "nce"</pre> x is starting index; i is number of characters; 0 indexed
Concatenation	+	<pre>print(stringA + stringB) print("Hello, your name is: " + name)</pre>
Uppercase	.upper	subject.upper gives "COMPUTERSCIENCE"
Lowercase	.lower	subject.lower gives "computerscience"
ASCII Conversion	<pre>ASC(...) CHR(...)</pre>	<pre>ASC('A') returns 65 (numerical) CHR(97) returns 'a' (char)</pre>

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File handling		
Open	<code>open (...)</code>	<code>myFile = open("sample.txt")</code> Note that the file needs to be stored as a variable.
Close	<code>.close()</code>	<code>myFile.close()</code>
Read line	<code>.readLine()</code>	<code>myFile.readLine()</code> returns the next line in the file
Write line	<code>.writeLine (...)</code>	<code>myFile.writeLine("Add new line")</code> Note that the line will be written to the END of the file.
End of file	<code>.endOfFile()</code>	<code>while NOT myFile.endOfFile() print(myFile.readLine()) endwhile</code>
Create a new file	<code>newFile()</code>	<code>newFile("myText.txt")</code> Creates a new text file called "myText". The file would then need to be opened using the above command for Open.

Arrays		
Declaration	<code>array colours [...]</code>	<code>array colours[5]</code> Creates 1D array with 5 elements (index 0 to 4). <code>array colours = ["Blue", "Pink", "Green", "Yellow", "Red"]</code> Arrays can be declared with values assigned.
Arrays are 0 indexed Arrays only store a single data type	<code>array gameboard [..., ...] = ...</code>	<code>array gameboard[8,8]</code> Creates 2D array with 8 elements (index 0 to 7).
Assignment	<code>names [...] = ...</code> <code>gameboard [..., ...] = ...</code>	<code>names[3] = "Noni"</code> <code>gameboard[1,0] = "Pawn"</code>

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Sub programs		
Procedure	<code>procedure name(...)</code> <code>endprocedure</code>	<code>procedure agePass() print("You are old enough to ride") endprocedure</code> <code>procedure printName(name) print(name) endprocedure</code> <code>procedure multiply(num1, num2) print(num1 * num2) endprocedure</code>
Calling a procedure	<code>procedure(parameters)</code>	<code>agePass()</code> <code>printName(parameter)</code> <code>multiply(parameter1, parameter2)</code>
Function	<code>function name(...)</code> ... return ... <code>endfunction</code>	<code>function squared(number) squared = number^2 return squared endfunction</code>
Calling a function	<code>function(parameters)</code>	<code>print(squared(4))</code> <code>newValue = squared(4)</code> Note: Function returns should be stored in a variable if needed for later use in a program.
Random numbers		
Random numbers	<code>random(..., ...)</code>	<code>myVariable = random(1,6)</code> Creates a random integer between 1 and 6 inclusive. <code>myVariable = random(-1.0,10.0)</code> Creates a random real number between -1.0 and 10.0 inclusive.