

2.2 PROGRAMMING TECHNIQUES

DATA TYPES

Data Type	Definition
String	Text eg: "Hello"
Integer	Whole number eg: 32
Float/Real	Decimal number eg: 1.2
Boolean	Two values eg: true or false
Character	A single character eg: b

VARIABLES AND CONSTANTS

Variable - A value which may change while the program is running. Variables can be local or global.

Local Variable - a variable which can only be used within the structure they are declared in.

Global Variable - a variable which can be used in any part of the code after they are declared

Constant - A value which cannot be altered as the program is running.

OPERATORS

Operator/Function	Definition
Exponentiation	Raises a number to a power eg: 2**3 OR 2 ^3 (=2 ³)
Quotient/DIV	Gives the whole number after a division
Remainder/MOD	Gives the remainder part of a division
==	Is equal to
! or <>	Is not equal to
<	Is less than
>	Is more than

ARRAYS

One-Dimensional Arrays- this is like a list. In this example an array has been created called students. The list can hold 3 items (as shown).

```
array students [3]
students [0] = "Bob"
students [1] = "Dave"
students [2] = "Bob"
```

This command would print the second item (1) From the array. It would print "Dave".

```
print(students[1])
```

Two-Dimensional Arrays - these are lists within lists (like a table)

```
Grades=[[ "Bob", "22%", "44%"], [ "Dave", "85%", "100%"]]
```

The code above creates the 2D array. The code Below would output:
"Bob's first test score was 22%"

	0	1	2
0	Bob	22%	44%
1	Dave	85%	100%

```
print("Bob's first test score was " + Grades [0, 1])
```