

Unit 8: Introduction to Programming – Glossary

Term	Definition
Arithmetic operators	+, -, *, /, MOD
Array	A set of variables stored consecutively in memory, all of the same type.
Boolean data type	Can hold representations of the values TRUE and FALSE only.
Comments	Notes written in program code to explain what the code means and marked in such as way that the compiler knows that they are not part of the program code.
Concatenation of strings	Joining together of two or more strings to form one (e.g. "CAT" + "FLAP" = "CATFLAP").
Constant data	Data used by a program that is set to a value at the start and cannot be changed during execution.
Data declarations	Naming of variables, constants and data structures. Each is named and its type identified (e.g. integer, array of string).
Database query language	A restricted programming language that contains instruction specific to accessing data in a database.
Embedded system	A computer system built into a machine, usually to provide a means of control (e.g. electronic washing machine, car engine management system).
Event-driven	A mode of operation that relies on events triggered by the operating system. Clicking on an icon or a menu triggers an event and the program will react to this event.
File handling	A program must open and close a file and must read it in the correct way whereas it can access memory directly.
Function declarations	Naming of subroutines with a description of the name and types of data to be passed to it and the type of data to be returned from it.
Global variables	Defined for use by an entire program. They are created when the program starts and are available to all parts of the program until it ends.
High level language	A machine-independent language that allows the programmer to concentrate on solving a problem without worrying about the details of how the program will run on a particular machine. The language is readable using a combination of words and mathematical symbols and allowing the programmer to use their own naming.
Indentation	Using tabs to align instructions of a similar level (e.g. the instructions within a loop are aligned with each other but indented further than the loop condition and end instruction).

Term	Definition
Knowledge-based system (Artificial Intelligence System)	A computer program that makes human expert knowledge and experience available to the user.
Local variables	Defined for use only in one part of a program, usually a subroutine. They are created when that part of the program is run and are lost when it finishes running. They cannot, therefore, be used by other parts of the program.
Logical operators	AND, OR, NOT
Low level language	A machine-dependent language whose instructions reflect the way the machine is built. This type of language is used to develop programs that address hardware directly such as peripheral drivers and program translators and it uses codes rather than words. (E.g. assembly language, machine code.)
Macro	A sequence of instructions defined as a single named element and used to provide some programmability to applications software.
Maintenance	Modifications to a program, after it has been implemented and necessary because errors have been detected, because performance enhancements are desired or because the way it is used has changed.
Meaningful data names	The naming of variables indicate what data will be stored in them (e.g. an integer variable storing a running total might be named 'total', a variable storing a count of items might be named 'count').
Modularity	The use of subroutines to organise a program into small tasks to improve readability and ease of understanding.
Non-procedural language	A programming language where the programmer writes a set of facts (e.g. canine is a species, dog is a canine) and a set of rules (e.g. a dog is a species if a dog is a canine and a canine is a species).
Object-oriented language	A language in which the programmer can define data together with the allowable operations that can be carried out on that data. The definition of data with its permitted operations is known as an object.
Procedural language	A programming language where the programmer writes a set of instructions to be followed. The program, therefore, consists of a set of things to do.
Record	A set of variables stored consecutively in memory of different types.
Relational operators	=, >, <, >=, <=, <>
Repetition	A set of instructions to be repeated a number of times according to a condition or repeated endlessly.
Repetition – count-controlled	The condition can be set to repeat a set of instructions a given number of times (e.g. FOR...NEXT).

Term	Definition
Repetition – test on entry	A condition can be tested before executing a group of instructions and is tested again each time the set of instructions has been carried out. Once the condition fails the group of instructions are skipped (e.g. WHILE...ENDWHILE).
Repetition – test on exit	A condition can be tested after executing a group of instructions and is tested again each time the set of instructions has been carried out. Once the condition fails there is no further repetition (e.g. REPEAT...UNTIL).
Selection	A condition is stated and one particular path, or set of instructions, is taken depending on the value of the condition (e.g. IF...THEN...ENDIF, IF...THEN...ELSE...ENDIF, SELECT CASE...ENDSELECT).
Sequence	Individual instructions within a program or within a subroutine.
String	A set of characters stored and manipulated together as one textual word.
Subroutine	A set of instructions performing a specific task and given a name to identify it, which is not a complete program. It must be incorporated into a program in order to be executed (also known as functions or procedures).
Variable data	Data used by a program that can be changed during execution.
Visual language	A programming language that has the facility for drawing the user interface built in, along with the functions to incorporate the interface into the program code.
Web application language	A programming language used to write programs that will operate on the internet, usually running through a browser. These programs must operate completely independently of the machines they are running on.
Web scripting language	A mark up language that allows the description of a web page to be written using codes understood by a browser.