Keywords in Computing

A

Accumulator - A CPU register which stores data in current use by the CPU

Actuator - Device that produces physical movement based on output from a computer system.

Address - Location in main memory used to store data or instructions

Algorithm – Set of precise instructions to solve a problem/achieve a goal

ALU - Arithmetic Logic Unit. Performs arithmetic and logical operations in the CPU.

Analogue – Continuously changing values

Applet – Small application designed to perform a single task

Application – Software designed to carry out a real world task

Array - A data structure containing multiple variables under a single name. Fixed length.

ASCII - American Standard Code for Information Interchange. 7-bit system to code the character set of a computer

Assembler - Program which translates assembly code into machine code

Assembly Language - Low level programming language which uses mnemonics and labels to represent machine level code. One line of assembly code translates into one line of machine code

Assignment – Setting the value of a variable

Attribute - A characteristic of an entity. It becomes a field in a data table.

B

Bar Code - Pattern of lines representing a unique identifying number that can be scanned into a computer.

Binary - A number system using only 2 digits, 0 and 1.

Bit - Binary digit, 1 or 0

Bit Rate - The space available for each sample measured in kilobits per second.

Boolean - A value that can only be true or false

Boolean Algebra - A method for expressing mathematically a logic circuit

Bus - A part of the computer architecture that transfers data and signals between the components of a computer.

Byte – 8 bits

C

Cache Memory – Special high speed memory used by a computer

Camera - A device to capture still or moving images

CD - Compact Disk. An optical device with a capacity of 700MB

Character - Single alphabetic or numeric character

Character set - The characters available to a computer

Client - Software or hardware which requests data from a server

Clock Chip - The electronic device in a computer which controls the timing of signals

Colour Depth - Number of bits used for each pixel in an image

Command line - Where instructions can be given directly to the operating system

Comparison - Comparing two values and returning TRUE or FALSE.

Complier - A program which translates a whole program into machine code before executing it.

Compression - The process of reducing the size of a file for download or storage purposes

Computer Architecture - The internal logical structure and organisation of a computer

Computer System – A system in which you can input data, process data, output data and store data digitally

Concatenation - Combining two strings into a single string

Constant - A label referring to a memory location containing a value which cannot be changed by a program.

Control Unit - Works with the CPU to control the flow of data through the CPU.

CPU - Central Processing Unit. Fetches, decodes and executes instructions.

Custom Written software - Software specifically developed for a person or company.

D

Data redundancy - Unnecessary repetition of data

Debugger - A tool provided by an IDE to identify syntax errors

Decision - A flow diagram symbol used to show a decision stage, usually a yes/no. The symbol used to represent a decision is a diamond

Declaration - Identifying a variable or constant or array to a program so that memory space can be allocated.

Decomposition - The process of breaking down a problem into more manageable parts.

Defragmenter - Tool provided by an operating system as part of a disk management suite. A utility program which brings file fragments together , collecting free space into one area of the disk.

Denary - A number system which uses base 10, or 10 digits

Domain Name - A human readable name for a resource on a network. It is changed into an IP address by a DNS server

Dual/ Quad Core - A CPU with multiple cores.

DVD - Digital Versatile Disk. An optical storage device with a capacity of 4.7GB

E

Entity - A real world object or person, about which we store data in a database

Entity Relationship Diagram - A diagram which shows how entities are connected in a database.

Erroneous - Data that would not normally be expected – for example, the wrong data type.

Extreme - Data which is at the extreme limit of valid or invalid to check boundary conditions

F

Failover - Automatic switching to a backup computer system in the event of a failure.

Fetch Execute Cycle - The process of fetching instructions from the cache, decoding them and then executing them in the CPU

Field - A characteristic about something sorted in a database

File - Stored data on a suitable media

Firewall - Software and/or hardware which limits access to and from a computer system.

Flash Memory - Solid-state memory used as low cost secondary storage in portable devices and as removable memory.

Flat File Database - Database containing only one table

Float - A number containing a decimal point.

Flowchart Diagram - A diagram which represents a algorithm, showing the structure and flow of data, solving a problem.

G

Gigabyte - 1024 Megabytes

GUI - Graphical User Interface. Provides interface with the Operating System.

H

Hexadecimal - Base-16 number system

High Level Language - A Programming language which resembles natural language. One line of high level language is equal to many lines of machine code

HTML- Hypertext mark-up language. A text based system for defining web pages

Hub - A device for connecting multiple network devices in one segment.

Hyperlink - An item on a webpage that directs the user to another location when clicked.

I

Icon - A picture on screen that represents a file, program or action.

Identifier – The name given to the variable

Initialisation – Giving a starting value to a variable e.g. guess = 0

Input Device - A hardware device used to input data into a computer system for processing

Input (Flowchart Symbol) – The symbol used for an input is a parallelogram. This symbol should be used when data/information should be input into the algorithm

Instructions - A set of commands that a processor can recognise and act upon

Integer - Any whole number.

IDE - Integrated Development Environment. Program providing a number of tools to assist development of programs.

Interface - The boundary between systems or between systems and humans

Interpreter - A program which translates source code into machine code and executes it one line at a time.

Interrupt Signal - A signal to the operating system to stop what it is doing and perform a different task instead

Intranet - A private data resource using the same technology as the internet, such as browsers and protocols.

Invalid - Data used to test a program that should be rejected.

IP Address - A 32 Bit number that identifies a device on a TCP/IP network e.g. 194.66.82.11

Iteration - Instructions repeated until a condition is met.

K

Keyboard - A device that uses labelled keys to enable data input into a computer.

Kilobyte - 1024 bytes

L

LAN - Local Area Network. Confined to one location.

Logic Circuit - A circuit made by combining a sequence of logic gates.

Logic Error - The logical structure if the program produces unexpected results

Logic Gates - A circuit that produces an output based on the input. Examples: AND, OR, NOT

Low Level Language - A programming language that is directed at controlling each machine operation

M

Machine Code - Instructions in binary used by the CPU

Magnetic Hard Disk - Secondary storage device using magnetised platters to store data and files.

Megabyte - 1024 kilobytes

Metadata - Information about the image data that allows the computer to recreate the image from the binary data in the file. This must contain the height and width in pixels, and the colour depth.

Microphone – A device for capturing sound

Monitor - A device which displays images and text.

Motherboard- The central PCB that holds the crucial components of the system

Mouse - A device that controls the movement of a pointer on the screen based on its own movement and allows the user to select an object by pressing a button.

N

Nesting – Control Structures inside other control structures

Nibble – 4 bits – Half a byte

Non Volatile - Data is retained even after the power is switched off.

O

Object Code - The machine code produced by a compiler

Off the shelf software - Software that is aimed at many users and sold "as is"

One to many - A relationship between entities where a record may have links to many other records in another table

Operand - The part of the instruction on which the operation is applied.

OS - Operating system. Controls the hardware and acts as an interface between the user and the computer, and also between applications and the hardware.

Operator - A logical (Boolean), arithmetic or comparison (relational) operator used by the program

Operator Assembly - This is the part of the instruction that tells the CPU what to do.

Optical Disk - Secondary storage device using lasers to read and write to a reflective surface.

Output Device - A piece of hardware that is used to output/display data which has been processed or has been stored onto the computer

Output (Flowchart Symbol) – The symbol used for an output is a parallelogram. This symbol should be used when data/information should be output

Overflow - When a number becomes too large to fit in the number of bits that it has been allocated. Some bits are lost, leaving an incorrect value.

P

PDF - Portable document format. A file standard that allows documents to be displayed accurately on any platform.

Peer – to - Peer - A networks arrangement where all computers are equal.

Pixel - The smallest element of an image. Pixels are the dots that make the image on screen.

Printer - A device which produces physical copies of output of a computer system.

Process - A flow chart symbol which defines any processing to be completed at that stage. The symbol used to represent a process is a rectangle

Program - A stored set of instructions for a computer to execute.

Program Counter- A register in the CPU that keeps the address of the next instruction.

Programming Language - A way of writing an instructions for a computer to execute.

Protocol - A set of rules or standards that control communication between devices

Pseudo Code - A method for describing an algorithm using structured English. Not language specific

R

RAM - Random Access Memory. Main memory of a computer that stores programs and data that are currently in use. You can read data from the RAM and write data to the RAM. It is volatile memory which means when the computer is switched off the RAM will lose all of its data.

ROM - Read Only Memory. Storage for data on a computer which cannot be overwritten. ROM data is always available and non-volatile.

Record - All the data about one item in a database.

Register - Special fast access part of the CPU that stores data currently in use.

Resolution - The number of pixels per unit. E.g. ppi or dpi

S

Sample Rate - Number of times the sound is sampled in a second. Measured in Hertz.

Secondary Storage - Non-volatile storage used to store programs, files and data.

Selection - The pathway through a program selected using a condition to decide on whether an instruction is executed or not.

Sensor - A device that can detect physical conditions such as temperature, weight, light etc.

Sequence - A list of instructions to be carried out in order, one after the other.

Server- Software that provides services to a client or the hardware that is running it.

Software - The programs that run on a computer.

Solid state - Technology based on electronics with no moving parts, for example transistors and capacitors as used in memory chips

Source Code - The program written by the user in a high level language prior to translating it to machine code

Speaker - A device to output sound

Spyware - Malicious software designed to detect what the user is doing and send this information back to the originator.

String - A string of alphanumeric characters

Start/Stop (Flowchart Symbol) – This symbol is used at the beginning and end of a flowchart to show where the flowchart starts and finishes. The symbol used for start/stop is a oval.

Switch - A device for connecting multiple network devices and multiple segments

Syntax Error - An error in the source code which violates the grammar of the programming language

T

TCP/IP - Transmission Control Protocol/Internet Protocol. A set of standards which control how data is sent across networks

Terabyte - 1024 gigabytes

Touch Screen - A touch sensitive surface that allows the user to select, control or move object by touching icons etc. using their fingers or a stylus.

Translator - A program that converts source code into machine code

Trojan - Malicious software which is disguised as a useful program.

Truth Table - A method for recording all the possible input combinations and their output.

U

Unicode - Up to 32-bit system for encoding characters

Utility Software - A small program designed to carry out a limited maintenance task

User Interface - The boundary between the computer and the user

V

Valid - Data used in testing that represents normal data

Validation - The process of checking that data as it is input to ensure that it l as expected.

Variable - A memory location with a label, containing a value.

Verification - The process of checking that data entered is true or correct.

Virtual Memory - A section of the hard disk is used as if it was RAM to supplement the amount of main memory available to the computer when the main memory is insufficient.

Virus Detection - The process of detecting possible malicious software and files in a computer system

Volatile - Data is lost when there is no power

W

WAN - Wide Area Network. Covers larger geographical area

Web Server - A server that handles requests for a website