

Glossary

This is a glossary of terms in the computer science context – the words may sometimes (but not always) have different meanings in other contexts.

Abstraction Reducing complexity by focusing on the essential features of an algorithm or data representation and omitting unnecessary detail.

Algorithm An algorithm is a sequence of instructions and/or set of rules.

Animation Animation is a way of creating a continuous motion and shape change of your graphic or sprite.

Artificial Intelligence Artificial Intelligence (**AI**) is the behaviour of a computer independently of a human. Computer games have artificial intelligence built into them in order to make the game much more interesting.

Application A self-contained program that performs a specific function for end users.

Augmented Reality A technology that superimposes a computer-generated image on a user's view of the real world, thus providing a composite view.

Binary Code A computer language to express the digital information they process. It is called binary because it consists of two symbols – 0s and 1s.

Blogging A personal website/webpage which an individual records opinions, links to other sites, etc. on a regular basis.

Boolean logic / digital logic A system of reasoning with truth values, true and false, using logical operations such as and, or, and not. Named after British mathematician George Boole.

Browser A piece of software that enables a user to locate, retrieve and display information on the world wide web.

Central Processing Unit (CPU) This is the part of the computer that turns your commands in actions

Code These are the instructions used to write a computer program. Different pieces of code can be arranged in different ways to give the computer a set of instructions.

Complexity The way that a solution to a problem scales as the size of the input increases, considering both the number of computational steps and the memory space required.

Computation Performing a calculation by executing the instructions of a program on a computational device.

Computational device / digital device A computer or other programmable device that performs computation.

Computational thinking The ability to analyse ways to solve problems using appropriate algorithms and data representations, taking account of the complexity of possible solutions.

Computer Program A computer program is a sequence of instructions written to perform certain tasks by the computer. It's a way of talking to the computer to ask it to do things for you.

Computer science The scientific study of computation, applied to both hardware and software, covering both theoretical and practical concerns.

Computational thinking It is a way of thinking that uses concepts and theories from computer science to solve problems.

Conditional Language Can also be described as a *Conditional Expression*, they are features of coding that perform different computations or actions depending on a specified condition being either *True* or *False*. For example using the ***if then else*** construct, ***If the following Condition is True Then do the following instructions Else do these different instructions.***

Conditional Statements Can also be described as a *Conditional Expression*, they are features of coding that perform different computations or actions depending on a specified condition being either *True* or *False*. For example using the ***if then else*** construct, ***If the following Condition is True Then do the following instructions Else do these different instructions.***

Control In ICT Terms, this means the commands placed in a sequence to perform a desired task.

CPU This is the part of the computer that turns your commands in actions

Data Information which can be stored, retrieved and manipulated in digital form using digital devices.

Data representation The various ways data can be represented as words, numbers and pictures in the memory of a computational device.

Debug This is the process of finding errors or problems with your code and trying to fix it. Sometimes code will be in the wrong order or there could be bits of code missing, the process of fixing the code is called debugging.

Decipher Convert (a text written in code, or a coded signal) into normal language

Decomposition Also known as *factoring*, refers to the process by which a complex problem or system is broken down into parts that are easier to conceive, understand, program, and maintain.

Digital artifacts / digital content Images, videos, text or data, or a combination of these, which are made on a digital device.

Directional language Forwards, backwards, left and right.

Digital literacy The ability to access and manipulate digital content and understand the implications of its creation and distribution.

eBook An electronic version of a printed book which can be read on a computer or a specifically designed handheld device.

Elements: Elements are like tags but they contain the information about the web page. A element will sit inside a tag.

eMail: This is a digital letter Messages distributed by electronic means from one computer user to one or more recipients via a network.

E-safety Understanding and applying rules to mitigate against the risks to personal safety and privacy of personal information in using digital devices of all kinds.

Flipcam A HD camcorder

Flowchart A diagram of the sequence of movements or actions

Function A small section of computational code that performs a specific operation. In particular, a function takes inputs, or arguments, and returns outputs, or results.

Garageband Software application that allows users to create music or podcasts

Green screen (in film and video) A subject is filmed in front of a green background which allows a separately filmed background/image to be added to the final video in the editing phase.

Hardware Physical items of computing kit such as desktop hard drives, printers and scanners

HTML Web pages are files that are viewed using an internet browser. The pages are written in a language called HTML. HTML is made up of elements, or tags, that are used as instructions to tell the browser what should appear on a web page and how it should be structured. HTML stands for HyperText Markup Language.

Infographic Visual representation of information, that can be very complex, displayed in a way that can be interpreted quickly and easily.

Input: Inputs are devices or code that send instructions to the computer and allows us to interact with technology. These are the means of communicating with computers e.g. keyboard and mouse.

Internet An electronic system that connects billions of people using computers, phones, or other devices, and allows them to communicate with one another

Jingles A short slogan, verse, or tune designed to be easily remembered used in advertising.

Logic A systematic approach to reasoning. The rules that underlie an algorithm used for an application. Can also refer to digital components in computer hardware.

Looping A loop is a sequence of instructions that will be continually repeated until a **Conditional Statement** is reached or becomes true. Using loops is a way of asking a question until something (*conditional statement*) becomes true.

Memory This is the name for the electronic holding place for instructions and data that a computer's microprocessor can reach quickly.

Message Something you want to tell or ask another person

Mind map A mind map is a diagram used to visually outline information. A mind map is often created around a single word or text, placed in the centre, to which associated ideas, words and concepts are added.

Mnemonic A system such as a pattern of letters, ideas, or associations which assists in remembering something.

Musical Loops A repeating section of sound material

Network A number of computational devices connected together, allowing sharing of resources and cooperation between devices in the solution of a problem. Also the hardware used to establish connections between devices on a network.

Operating system The program that enables the computer to start and access different sorts of software on the computer, examples include Microsoft Windows and iOS for Mac.

Output These are the means by which the computer relays information e.g. printer or monitor

Peripherals These are the external accessories to computers such as printers.

Player Interaction Player interaction is the main point of all the computer games. If the player cannot interact with the game or control something within a game they simply won't play the game.

Podcast Podcasts are shows, similar to radio or TV shows that are produced and posted to the Internet for download and listening or viewing.

Procedure A small section of computational code that performs a specific operation. Unlike a function, a procedure does not return a result but may be to change the data stored in objects in computer memory.

Program / code (verb) To create or modify a program.

Program / code (noun) A sequence of instructions to perform a task.

Programming language A formal language for representing statements, or commands, and data values used in a program. A programming language has a precise syntax that defines the valid ways for combining the symbols used to denote variables and data values. Examples used on schools include Scratch, Python and SmallBASIC.

Python Is an object-oriented coding language, meaning everything in the program is treated as an object.

QR Code A machine-readable code consisting of an array of black and white squares, typically used for storing URLs or other information for reading by the camera on a smartphone.

Search technologies Algorithms used by applications known as search engines to trawl the internet for digital content matching search terms given by a user. Results are normally presented in the form of links to relevant content.

Selection It means 'to choose something'.

Sequence A set of actions or events that must be carried out in the same order every time.

Simple Program A sequence of instructions to perform a task.

Simulation The technique of representing the real world by a computer program

SketchUp is 3D modeling software

Software The programs that enable computers to undertake specific functions.

Stop motion is an animation technique that physically manipulates an object so that it appears to move on its own. The object is moved in small increments between individually photographed frames, creating the illusion of movement.

Storyboard A sequence of drawings, representing the shots planned for a film.

Structure HTML files need to have a structure or order to them in order for them to be understood by the internet browser to display the web page. If the structure is wrong then the web page won't display correctly.

Sprite A sprite is a 2D image that is integrated into a computer game in a layered effect.

Tags Tags are what the HTML language uses as instructions to tell in the internet browser what should appear on the web page. Tags look like this `<head> </head>`. They will always have an opening tag and closing tag.

Variables Variables are used to store information within computer code, each Variable will have a unique name and it will hold a known or unknown quantity or value. For example the number of points scored by each player would be stored in a variable.

Visual programming Any programming language that lets users create programs by manipulating program elements graphically rather than by specifying them textually.

Wiki A website developed collaboratively by a community of users, allowing any user to add and edit content.