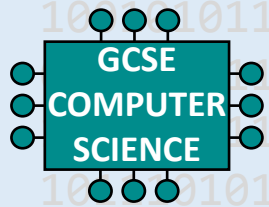


Data representation

Bit

“The smallest unit of storage in a computer system, represented by either a binary 1 or 0.”



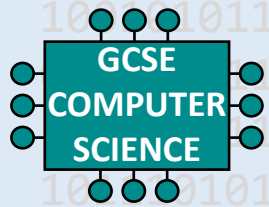


Data representation

Nibble

“Half a byte / 4 bits.”



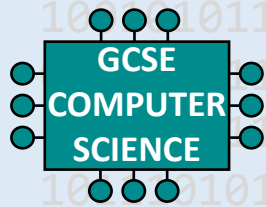


Data representation

Byte

“A collection of eight bits.”



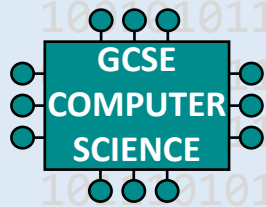


Data representation

Kilobyte

“1 kilobyte is 1000 bytes. This is a powers of 10 decimal prefix.”



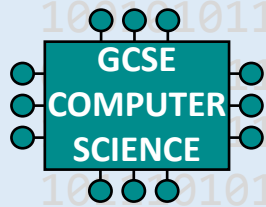


Data representation

Megabyte

“1 megabyte is 1000 kilobytes. This is a powers of 10 decimal prefix.”



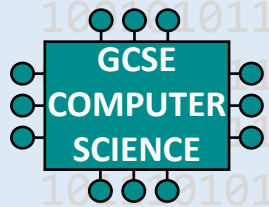


Data representation

Gigabyte

“1 gigabyte or 1000 megabytes. This is a powers of 10 decimal prefix.”



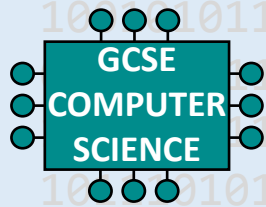


Data representation

Terabyte

“1 terabyte is 1000 gigabytes. This is a powers of 10 decimal prefix.”



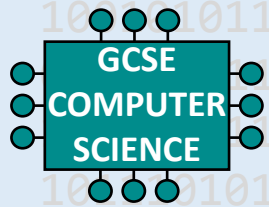


Data representation

Petabyte

“1 petabyte is 1000 terabytes. This is a powers of 10 decimal prefix.”



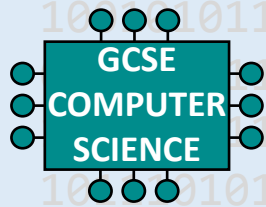


Data representation

Denary

“A numerical system of notation which uses 10 as its base. The 10 Decimal base digits are 0-9.”





Data representation

Binary

“Binary describes a numbering scheme in which there are only two possible values for each digit: 0 and 1. The term in computing refers to any digital encoding system in which there are exactly two possible states. E.g. in memory, storage, processing and communications, the 0 and 1 values are sometimes called “low” and “high”, respectively.”

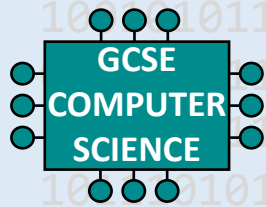


Data representation

Hexadecimal

“A numerical system of notation which uses 16 rather than 10 as its base. The 16 Hex base digits are 0-9 and the letters A-F.”



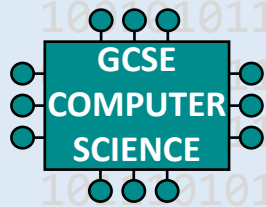


Data representation

Binary Addition Overflow

“The generation of a number that is too large to be represented in the device meant to store it.”





Data representation

Binary Shift

“Allows you to easily multiple and divide base-2 binary numbers. A left shift multiplies by 2 and a right shift divides by 2.



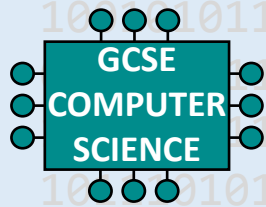
Data representation

Check Digit

“A calculation on data to create a number included with the data for error checking. e.g. check digit = sum of digits DIV 3: 12345 (data) $15/3 = 5$ (check digit) = 123455.

When the number is input the check digit is recalculated to check it matches. Therefore valid data entry can be assumed.”



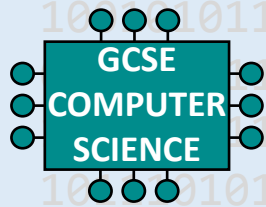


Data representation

Character-Set

“The set of symbols that may be represented in a computer at a particular time. These symbols, called characters, can be letters, digits, spaces or punctuations marks, the set includes control characters.”



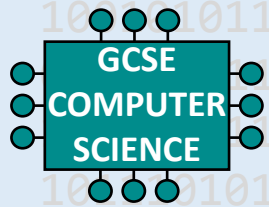


Data representation

ASCII

“America Standard Code for Information Interchange: “A character set devised for early telecommunication systems but proved to be ideal for computer systems. ASCII codes use 7-bits giving 32 control codes and 96 displayable characters (the 8th bit is often used for error checking).””



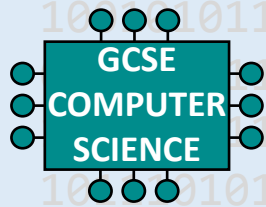


Data representation

Unicode

“Standard character set that replaces the need for all the different character sets. It incorporates characters from almost all the world’s languages. It is a 16-bit extension of ASCII.”



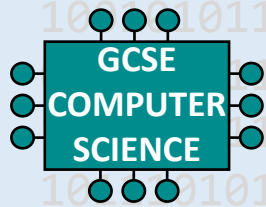


Data representation

Pixel

“A pixel is the smallest unit of a digital image or graphic that can be displayed and represented on a digital display device. A pixel is represented by a dot or square on a computer monitor display screen.”



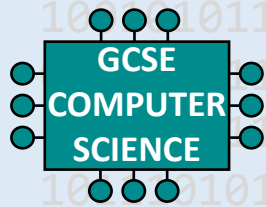


Data representation

Metadata

“A set of data that describes and gives information about other data.”



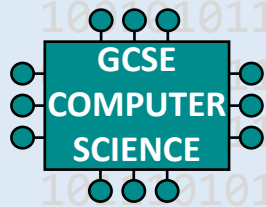


Data representation

Colour Depth

“Also known as bit depth, is either the number of bits used to indicate the colour of a single pixel, in a bitmapped image or video frame buffer, or the number of bits used for each colour component of a single pixel.”



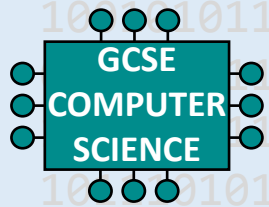


Data representation

Resolution

“The number of pixels (individual points of colour) contained on a display monitor, expressed in terms of the number of pixels on the horizontal axis and the number on the vertical axis.”





Data representation

Bit Rate

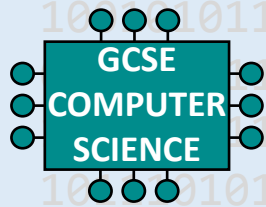
“The number of bits per second that can be transmitted along a digital network.”



Sampling Frequency

“Number of samples stored per second. Sample rate multiplied by bit depth. The higher the number the better the quality. The higher the number the larger the file size. CD quality is 44,100 samples per second.”





Data representation

Compression

“The process of reducing the size of a file in terms of its storage size.”



Lossy Compression

“A compression scheme where their generally involves a loss of resolution in parts of the image where experiences shows that it will be least noticed.”



Data representation

Lossless Compression

“A compression scheme that allows the original images to be recreated.”

