CAIE Computer Science IGCSE

1.3 Data storage and compression

Flashcards

What does "bit" stand for?

What does "bit" stand for?

Binary digit.

How many bits are in a byte?

How many bits are in a byte?

8 bits.

What is a kibibyte (KiB) equal to?

What is a kibibyte (KiB) equal to?

1024 bytes.

What is a mebibyte (MiB) equal to?

What is a mebibyte (MiB) equal to?

1024 kibibytes.

What is a gibibyte (GiB) equal to?

What is a gibibyte (GiB) equal to?

1024 mebibytes.

What is a tebibyte (TiB) equal to?

What is a tebibyte (TiB) equal to?

1024 gibibytes.

What is a pebibyte (PiB) equal to?

What is a pebibyte (PiB) equal to?

1024 tebibytes.

What is a exbibyte (EiB) equal to?

What is a exbibyte (EiB) equal to?

1024 pebibytes.

State the equation to calculate sound file size.

State the equation to calculate sound file size.

sound file size = sample rate x duration (s) x sample resolution

State the equation to calculate image resolution.

State the equation to calculate image resolution.

image resolution = image height (px) x image width (px)

State the equation to calculate image file size.

State the equation to calculate image file size.

image file size = colour depth x image resolution

What is data compression?

What is data compression?

Data compression is the process of reducing the file size of digital data without losing the original information (or with minimal acceptable loss).

Why is data compression used?

Why is data compression used?

It is used to save storage space and speed up transmission, as well as reducing the bandwidth required.

What are the two main types of compression?

What are the two main types of compression?

Lossy and lossless.

What is lossy compression?

What is lossy compression?

Compression that removes some data permanently, reducing file size more but lowering quality.

Is lossy compression reversible?

Is lossy compression reversible?

No - original data cannot be fully recovered.

What is lossless compression?

What is lossless compression?

Compression that preserves all data, allowing the original file to be perfectly reconstructed.

Name a method of lossless compression.

Name a method of lossless compression.

Run Length Encoding (RLE).