Monday 15th November 2021

Compression

The need for compression

Many large files are uploaded and downloaded every day. Smaller file sizes reduce the time file transmission takes and reduces the storage space required. The advantages of compression include:

* Less bandwidth required for uploading and downloading files
* Transfer time is faster
* Less storage space is required
* Allows for streaming of audio and video

Compression Types

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|  | Lossless | Lossy |
| What it does | Reduces the size of the file without losing and data – nothing is lost | Reduces the size of a file by deleting some data – the file is permanently changed. |
| How it works | Looks for where the same data is stored many times, and groups it into one reference. | An algorithm makes very slight changes so that multiple things can be given the same value. For example, many different shades of red could be stored as only one. |
| Good uses | Text files  Graphic files with a low colour depth | Image files  Digital sound recordings |
| Bad uses | Audio Files  24-bit colour depth images | Text Files  Executable Software |
| Examples | Compressed text files  GIF and PNG image files  FLAC audio files | MP3 Files  JPG Image Files |