File compression

Media files are often very large in terms of the file size they take up on a computer

- large files are high quality, but are difficult to transfer to other people (e.g. e-mail) and take a long time to download if being streamed
- smaller file sizes are better for streaming, but lower quality

To reduce file size we can use **file compression**

File compression

File compression reduces file size

- compressed files are smaller
- uncompressed files are larger

Compressing a file can lead to a loss in quality of the image, audio, or video involved

File compression

There are two types of file compression:

Lossy compression

This reduces the file size a lot, but leads to the loss of some quality in the media

For example, an MP3 file uses lossy compression. The very high and very low sounds are removed, reducing the file size

Lossless compression

This reduces the file size without losing any data

The file size isn't usually reduced by as much, but the quality of the media is kept

PNG and SVG files use lossless compression

File compression

Key differences and example formats

Lossy compression	Lossless compression
Files lose detail and quality but are smaller Images: JPG – very similar coloured pixels are combined as one colour Audio: MP3, AAC, OGG Video: MP4, MPEG, MOV. AVI can be lossy	Files lose no detail and quality but can be made smaller (not as small as lossy) Images: PNG, SVG Audio: FLAC Video: AVI can be lossless ZIP files allow any file to be compressed

Some files, like WAV audio files, use no compression. They have much higher file sizes but retain quality