

Name: Data Representation: Compression of Images and Text

| A | Key Vocab |
|--------------------|--|
| Compression | Reduction in file size to lessen download times and storage requirements |
| Lossy | Compression which loses data (and therefore quality) |
| Lossless | Compression which preserves the original data |
| Metadata | Data about data |

| B | Representing Text |
|-----------------------|--|
| ASCII | A 7-bit code which represents a basic <i>character set</i> |
| Extended ASCII | A <i>character set</i> represented by 8 bits instead of 7, in other ways just like ASCII |
| Unicode | A modern standard <i>character set</i> which uses 16 bits and includes many international characters |
| Character set | The complete set of letters and symbols available within a given code |

| C | Representing Images |
|---------------------|--|
| Bitmap | The representation of an image by converting it to pixels and each pixel to a binary number |
| Vector | The representation of an image by splitting it into shapes and storing each shape as a binary number |
| Pixel | The smallest element of an image. One dot of one colour. |
| Resolution | The level of detail in an image, measured in pixels (dots) per inch (dpi) |
| Colour depth | The number of bits used per pixel to record colour. |
| File Size | width (px) × height (px) × <i>colour depth</i> |

| D | File types | |
|-------------|------------|--------------|
| PDF | document | lossless |
| PNG | image | lossless |
| JPEG | image | lossy |
| GIF | image | lossy |
| BMP | image | uncompressed |
| MPEG | video | lossy |
| MP4 | video | lossy |
| MOV | video | lossless |
| MP3 | audio | lossy |
| WAV | audio | lossy |

| E | Image metadata |
|---|-----------------|
| | Filename |
| | File format |
| | Dimensions |
| | Resolution |
| | Colour depth |
| | Time and Date |
| | Location |
| | Camera settings |

| F | Lossy compression | |
|---|-------------------|--|
|---|-------------------|--|



Original:
12KB

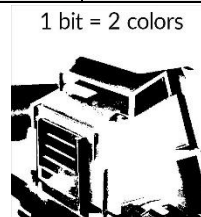


Compressed:
1.8KB

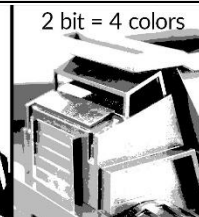


Very compressed:
0.56KB

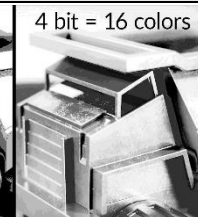
| G | Colour depth | |
|---|--------------|--|
|---|--------------|--|



1 bit = 2 colors



2 bit = 4 colors



4 bit = 16 colors