

11.1.2 File Formats

Syllabus 2026 - 2028

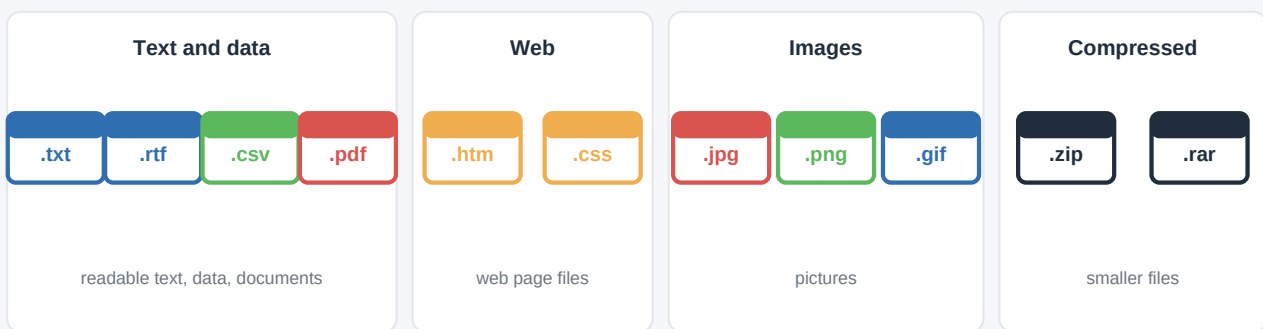
WHAT YOU NEED TO KNOW

- Characteristics and uses of file formats including css, csv, gif, htm, jpg, pdf, png, rtf, txt, zip and rar
- The need for generic file formats

What a file format is

A **file format** is the way data is arranged in a file. The **file extension**, the letters after the dot (for example .jpg), shows the format and tells the computer which program should open it. A program can only open the formats that it understands.

Figure 49: Common file formats

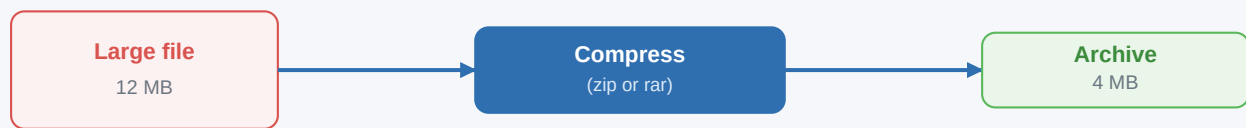


Characteristics and uses

Format	Name	Characteristics and uses
.txt	Plain text	Text only with no formatting; opens in any text editor; very small
.rtf	Rich Text Format	Text with basic formatting (bold, fonts); opens in different word processors
.csv	Comma-separated values	Plain text where values are separated by commas; used to move data between spreadsheets and databases
.pdf	Portable Document Format	Keeps the layout the same on any device; usually read-only; used for sharing and printing documents
.htm	HyperText Markup	Web page file written in HTML tags, which a browser displays
.css	Cascading Style Sheet	Text file of style rules (colours, fonts, layout) shared by many web pages
.jpg	JPEG image	Compressed photographs with millions of colours; small file, but some quality is lost
.png	Portable Network Graphics	Compressed image with no loss of quality; supports transparency; used for logos and screenshots
.gif	Graphics Interchange Format	Limited to 256 colours; supports simple animation; used for icons and short animations
.zip / .rar	Compressed archive	One or more files compressed into a single smaller file, for easier storage and sending

Compression

Figure 50: File compression



Lossy compression, as in JPEG, removes some data permanently to make the file much smaller. **Lossless** compression, as in ZIP and PNG, reduces the size without losing any data, so the original can be recreated exactly.

The need for generic file formats

- A generic format is **not tied to one program**, so files can be opened by many different applications
- It allows **sharing** between people who have different software or operating systems
- It allows data to be **transferred** between programs, such as a database to a spreadsheet using CSV
- It allows **long-term access** to files, even when the original software is no longer available
- It often keeps files small, for example PDF, JPG and ZIP, and suits the web, for example HTM, CSS, PNG, JPG
- **Disadvantage:** some formatting or features may be lost when a file is converted

EXAM TIP

Link each format to its **use** and a **reason**: for example 'JPG for photographs on a web page, because compression makes the file small so it loads quickly'. Do not just name the format.

Key terms

Term	Meaning
File format	How data is arranged in a file.
Generic format	A format that many programs can open.
CSV	Text file with values separated by commas.
PDF	A format that keeps layout fixed on any device.
JPEG	A compressed image format for photographs.
PNG	A lossless image format with transparency.
Compression	Reducing the size of a file.
Lossy	Compression that removes data permanently.

Practice questions

Answer each question in full sentences. Command words used: State (give a short answer), Describe (say what it is like), Explain (give reasons), Analyse (break it down and examine it), Suggest (apply your knowledge to a situation), Compare and contrast (similarities and differences), Evaluate (weigh up and reach a judgement).

No.	Question	Marks
1	State the meaning of the term 'generic file format'.	[1]
2	State two formats suitable for storing images.	[2]
3	Describe the characteristics of the CSV file format.	[3]
4	Explain why a school website would use the PDF format for downloadable newsletters.	[3]
5	Describe one use for each of the file formats .css and .htm.	[4]
6	Compare and contrast the .jpg and .png file formats.	[4]
7	Analyse why files are compressed into .zip or .rar format before being emailed.	[4]
8	Suggest a suitable file format for each: a photograph on a web page, a spreadsheet sent to another program, and a logo with a transparent background.	[3]
9	Evaluate the need for generic file formats when sharing files between different organisations.	[6]

Total: 30 marks