A comma-separated values (CSV) file is a delimited [text file](https://en.wikipedia.org/wiki/Text_file) that uses a [comma](https://en.wikipedia.org/wiki/Comma) to separate values. Each line of the file is a data [record](https://en.wikipedia.org/wiki/Record_(computer_science)). Each record consists of one or more [fields](https://en.wikipedia.org/wiki/Field_(computer_science)), separated by commas. The use of the comma as a field separator is the source of the name for this [file format](https://en.wikipedia.org/wiki/File_format). A CSV file typically stores [tabular](https://en.wikipedia.org/wiki/Table_(information)) data (numbers and text) in [plain text](https://en.wikipedia.org/wiki/Plain_text), in which case each line will have the same number of fields. Surprisingly, while this format is very common, it has never been formally documented since no MIME types have ever been registered with IANA for CSV.

A sort of standard for CSV files has been defined by RFC 4180 and groups the rules followed by the most common CSV implementations:

1. Each record is located on a separate line, delimited by a line

break (CRLF). For example:

aaa,bbb,ccc CRLF

zzz,yyy,xxx CRLF

2. The last record in the file may or may not have an ending line

break. For example:

aaa,bbb,ccc CRLF

zzz,yyy,xxx

3. There maybe an optional header line appearing as the first line

of the file with the same format as normal record lines. This

header will contain names corresponding to the fields in the file

and should contain the same number of fields as the records in

the rest of the file (the presence or absence of the header line

should be indicated via the optional "header" parameter of this

MIME type). For example:

field\_name,field\_name,field\_name CRLF

aaa,bbb,ccc CRLF

zzz,yyy,xxx CRLF

4. Within the header and each record, there may be one or more

fields, separated by commas. Each line should contain the same

number of fields throughout the file. Spaces are considered part

of a field and should not be ignored. The last field in the

record must not be followed by a comma. For example:

aaa,bbb,ccc

5. Each field may or may not be enclosed in double quotes (however

some programs, such as Microsoft Excel, do not use double quotes

at all). If fields are not enclosed with double quotes, then

double quotes may not appear inside the fields. For example:

"aaa","bbb","ccc" CRLF

zzz,yyy,xxx

6. Fields containing line breaks (CRLF), double quotes, and commas

should be enclosed in double-quotes. For example:

"aaa","b CRLF

bb","ccc" CRLF

zzz,yyy,xxx

7. If double-quotes are used to enclose fields, then a double-quote

appearing inside a field must be escaped by preceding it with

another double quote. For example:

"aaa","b""bb","ccc"

<https://en.wikipedia.org/wiki/Comma-separated_values#RFC_4180_and_MIME_standards>

https://www.rfc-editor.org/rfc/rfc4180