Package ‘vroom’

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Title  Read and Write Rectangular Text Data Quickly

Version  1.2.0

Description  The goal of ‘vroom’ is to read and write data (like ‘csv’, ‘tsv’ and ‘fwf’) quickly. When reading it uses a quick initial indexing step, then reads the values lazily, so only the data you actually use need to be read. The writer formats the data in parallel and writes to disk asynchronously from formatting.

License  GPL-3

URL  https://github.com/r-lib/vroom

BugReports  https://github.com/r-lib/vroom/issues

Depends  R (>= 3.1)

Imports  bit64,
          crayon,
          glue,
          hms,
          lifecycle,
          Rcpp (>= 0.12.18.3),
          rlang (>= 0.4.2),
          tibble (>= 2.0.0),
          tidyselect,
          withr

Suggests  bench (>= 1.1.0),
          covr,
          curl,
          dplyr,
          forcats,
          fs,
          ggplot2,
          knitr,
          patchwork,
          prettyunits,
          purrr,
          readr (>= 1.3.1),
          rmarkdown,
          rstudioapi,
          scales,
          spelling,
cols

Create column specification

description

cols() includes all columns in the input data, guessing the column types as the default. cols_only() includes only the columns you explicitly specify, skipping the rest.
Usage

cols(..., .default = col_guess(), .delim = NULL)
cols_only(...)
col_logical(...)
col_integer(...)
col_big_integer(...)
col_double(...)
col_character(...)
col_skip(...)
col_number(...)
col_guess(...)
col_factor(levels = NULL, ordered = FALSE, include_na = FALSE, ...)
col_datetime(format = "", ...)
col_date(format = "", ...)
col_time(format = "", ...)

Arguments

... Either column objects created by col_*(), or their abbreviated character names (as described in the col_types argument of vroom()). If you’re only overriding a few columns, it’s best to refer to columns by name. If not named, the column types must match the column names exactly. In col_*() functions these are stored in the object.
.
default Any named columns not explicitly overridden in ... will be read with this column type.
.
delim The delimiter to use when parsing. If the delim argument used in the call to vroom() it takes precedence over the one specified in col_types.
levels Character vector providing set of allowed levels. if NULL, will generate levels based on the unique values of x, ordered by order of appearance in x.
ordered Is it an ordered factor?
include_na If NA are present, include as an explicit factor to level?
format A format specification, as described below. If set to ",", date times are parsed as ISO8601, dates and times used the date and time formats specified in the locale().
Unlike strptime(), the format specification must match the complete string.
Details

The available specifications are: (with string abbreviations in brackets)

• `col_logical() [l]`, containing only T, F, TRUE or FALSE.
• `col_integer() [i]`, integers.
• `col_big_integer() [I]`, Big Integers (64bit), requires the bit64 package.
• `col_double() [d]`, doubles.
• `col_character() [c]`, everything else.
• `col_factor(levels, ordered) [f]`, a fixed set of values.
• `col_date(format = "") [D]`: with the locale’s date_format.
• `col_time(format = "") [t]`: with the locale’s time_format.
• `col_datetime(format = "") [T]`: ISO8601 date times
• `col_number() [n]`, numbers containing the grouping_mark
• `col_skip() [_, -]`, don’t import this column.
• `col_guess() [?]`, parse using the “best” type based on the input.

Examples

```r
cols(a = col_integer())
cols_only(a = col_integer())

# You can also use the standard abbreviations
cols(a = "i")
cols(a = "i", b = "d", c = "c")

# You can also use multiple sets of column definitions by combining
# them like so:

t1 <- cols(
  column_one = col_integer(),
  column_two = col_number())

t2 <- cols(
  column_three = col_character())

t3 <- t1
t3$cols <- c(t1$cols, t2$cols)
t3
```

cols_condense

Examine the column specifications for a data frame

Description

cols_condense() takes a spec object and condenses its definition by setting the default column type to the most frequent type and only listing columns with a different type.

spec() extracts the full column specification from a tibble created by readr.
date_names

Usage

cols_condense(x)

spec(x)

Arguments

x The data frame object to extract from

Value

A col_spec object.

Examples

df <- vroom(vroom_example("mtcars.csv"))
s <- spec(df)
s

cols_condense(s)

date_names Create or retrieve date names

Description

When parsing dates, you often need to know how weekdays of the week and months are represented as text. This pair of functions allows you to either create your own, or retrieve from a standard list. The standard list is derived from ICU (http://site.icu-project.org) via the stringi package.

Usage

date_names(mon, mon_ab = mon, day, day_ab = day, am_pm = c("AM", "PM"))

date_names_lang(language)

date_names_langs()

Arguments

mon, mon_ab Full and abbreviated month names.
day, day_ab Full and abbreviated week day names. Starts with Sunday.
am_pm Names used for AM and PM.
language A BCP 47 locale, made up of a language and a region, e.g. "en_US" for American English. See date_names_langs() for a complete list of available locales.

Examples

date_names_lang("en")
date_names_lang("ko")
date_names_lang("fr")
generators  

Generate individual vectors of the types supported by vroom

Description

Generate individual vectors of the types supported by vroom

Usage

```r
gen_character(n, min = 5, max = 25, values = c(letters, LETTERS, 0:9), ...)
gen_double(n, f = stats::rnorm, ...)
gen_number(n, f = stats::rnorm, ...)
gen_integer(n, min = 1L, max = .Machine$integer.max, prob = NULL, ...)
gen_factor(
  n,
  levels = NULL,
  ordered = FALSE,
  num_levels = gen_integer(1L, 1L, 25L),
  ...
)
gen_time(n, min = 0, max = hms::hms(days = 1), fractional = FALSE, ...)
gen_date(n, min = as.Date("2001-01-01"), max = as.Date("2021-01-01"), ...)
gen_datetime(
  n,
  min = as.POSIXct("2001-01-01"),
  max = as.POSIXct("2021-01-01"),
  tz = "UTC",
  ...
)
gen_logical(n, ...)
gen_name(n)
```

Arguments

- `n` The size of the vector to generate
- `min` The minimum range for the vector
- `max` The maximum range for the vector
- `values` The explicit values to use.
- `...` Additional arguments passed to internal generation functions
- `f` The random function to use.
prob  a vector of probability weights for obtaining the elements of the vector being sampled.

levels  The explicit levels to use, if NULL random levels are generated using `gen_name()`.

ordered  Should the factors be ordered factors?

num_levels  The number of factor levels to generate

fractional  Whether to generate times with fractional seconds

tz  The timezone to use for dates

Examples

```
# characters
gen_character(4)

# factors
gen_factor(4)

# logical
gen_logical(4)

# numbers
gen_double(4)
gen_integer(4)

# temporal data
gen_time(4)
gen_date(4)
gen_datetime(4)
```

---

**gen_tbl**

Generate a random tibble

**Description**

This is useful for benchmarking, but also for bug reports when you cannot share the real dataset.

**Usage**

```
gen_tbl(
  rows,
  cols = NULL,
  col_types = NULL,
  locale = default_locale(),
  missing = 0
)
```

**Arguments**

- **rows**  Number of rows to generate
- **cols**  Number of columns to generate, if NULL this is derived from `col_types`.
**guess_type**

### Description

Guess the type of a vector

### Examples

```r
# random 10 x 5 table with random column types
cols <- gen_tbl(10, 5)
cols

# all double 25 x 4 table
dbl_cols <- gen_tbl(25, 4, col_types = "dddd")
dbl_cols

# Use the dots in long form column types to change the random function and options
types <- rep(times = 4, list(col_double(f = stats::runif, min = -10, max = 25)))
types
dbl_cols2 <- gen_tbl(25, 4, col_types = types)
dbl_cols2
```
Usage

```r
guess_type(
x,
na = c("", "NA"),
locale = default_locale(),
guess_integer = FALSE
)
```

Arguments

- **x**: Character vector of values to parse.
- **na**: Character vector of strings to interpret as missing values. Set this option to `character()` to indicate no missing values.
- **locale**: The locale controls defaults that vary from place to place. The default locale is US-centric (like R), but you can use `locale()` to create your own locale that controls things like the default time zone, encoding, decimal mark, big mark, and day/month names.
- **guess_integer**: If TRUE, guess integer types for whole numbers, if FALSE guess numeric type for all numbers.

Examples

```r
# Logical vectors
guess_type(c("FALSE", "TRUE", "F", "T"))

# Integers and doubles
guess_type(c("1","2","3"))

# Numbers containing grouping mark
guess_type("1,234,566")

# ISO 8601 date times
guess_type(c("2010-10-10"))

# ISO 8601 date times
guess_type(c("2010-10-10 01:02:03"))

# ISO 8601 date times
guess_type(c("01:02:03 AM"))
```

Description

A locale object tries to capture all the defaults that can vary between countries. You set the locale in once, and the details are automatically passed on down to the columns parsers. The defaults have been chosen to match R (i.e. US English) as closely as possible. See vignette("locales") for more details.

Usage

```r
locale(
date_names = "en",
date_format = "%AD",
time_format = "%AT",
decimal_mark = ".",
)```
grouping_mark = ",",
    tz = "UTC",
    encoding = "UTF-8"
)

default_locale()

Arguments

date_names  Character representations of day and month names. Either the language code as string (passed on to \texttt{date_names_lang()}) or an object created by \texttt{date_names()}.
date_format, time_format  Default date and time formats.
decimal_mark, grouping_mark  Symbols used to indicate the decimal place, and to chunk larger numbers. Decimal mark can only be \texttt{,} or \texttt{.}.
tz  Default tz. This is used both for input (if the time zone isn’t present in individual strings), and for output (to control the default display). The default is to use "UTC", a time zone that does not use daylight savings time (DST) and hence is typically most useful for data. The absence of time zones makes it approximately 50x faster to generate UTC times than any other time zone. Use \texttt{""} to use the system default time zone, but beware that this will not be reproducible across systems.

For a complete list of possible time zones, see \texttt{OlsonNames()}. Americans, note that "EST" is a Canadian time zone that does not have DST. It is \textit{not} Eastern Standard Time. It’s better to use "US/Eastern", "US/Central" etc.

decimal_mark, grouping_mark

tz

decimal_mark, grouping_mark

tz

Examples

locale()
locale("fr")

# South American locale
locale("es", decimal_mark = ",")

---

**vroom**  
*Read a delimited file into a tibble*

**Description**

Read a delimited file into a tibble

**Usage**

\begin{verbatim}
vroom(
    file,
    delim = NULL,
    col_names = TRUE,
    col_types = NULL,
    col_select = NULL,

\end{verbatim}
id = NULL,
skip = 0,
n_max = Inf,
na = c("", "NA"),
quote = """,
comment = "",
trim_ws = TRUE,
escape_double = TRUE,
escape_backslash = FALSE,
locale = default_locale(),
guess_max = 100,
altrep = TRUE,
altrep_opts = deprecated(),
um_threads = vroom_threads(),
progress = vroom_progress(),
.name_repair = "unique"
)

Arguments

file      path to a local file.
delim     One of more characters used to delimiter fields within a record. If NULL the
delimiter is guessed from the set of c("", ",", ",", ",", ",", ",", ",", ",", :", ",", ;").
col_names Either TRUE, FALSE or a character vector of column names.
           If TRUE, the first row of the input will be used as the column names, and will
           not be included in the data frame. If FALSE, column names will be generated
           automatically: X1, X2, X3 etc.
           If col_names is a character vector, the values will be used as the names of the
col_names columns, and the first row of the input will be read into the first row of the output
col_names data frame.
           Missing (NA) column names will generate a warning, and be filled in with dummy
col_names names X1, X2 etc. Duplicate column names will generate a warning and be made
           unique with a numeric prefix.
col_types One of NULL, a cols() specification, or a string. See vignette("readr") for
           more details.
           If NULL, all column types will be imputed from the first 1000 rows on the input.
           This is convenient (and fast), but not robust. If the imputation fails, you’ll need
to supply the correct types yourself.
           If a column specification created by cols(), it must contain one column speci-
col_types fication for each column. If you only want to read a subset of the columns, use
cols_only().
           Alternatively, you can use a compact string representation where each character
           represents one column: c = character, i = integer, n = number, d = double, l =
           logical, f = factor, D = date, T = date time, t = time, ? = guess, or _/ to skip the
col_types column.
col_select One or more selection expressions, like in dplyr::select(). Use c() or
           list() to use more than one expression. See ?dplyr::select for details on
           available selection options.
id      Either a string or ‘NULL’. If a string, the output will contain a variable with that
           name with the filename(s) as the value. If ‘NULL’, the default, no variable will
           be created.
skip Number of lines to skip before reading data.
n_max Maximum number of records to read.
na Character vector of strings to interpret as missing values. Set this option to character() to indicate no missing values.
quote Single character used to quote strings.
comment A string used to identify comments. Any text after the comment characters will be silently ignored.
trim ws Should leading and trailing whitespace be trimmed from each field before parsing it?
escape_double Does the file escape quotes by doubling them? i.e. If this option is TRUE, the value ‘”’ represents a single quote, ‘’’.
locale The locale controls defaults that vary from place to place. The default locale is US-centric (like R), but you can use locale() to create your own locale that controls things like the default time zone, encoding, decimal mark, big mark, and day/month names.

Examples

# Show path to example file
input_file <- vroom_example("mtcars.csv")

# Read from a path

# Input sources --------------------------------------------
# Read from a path
vroom(input_file)
# You can also use literal paths directly
# vroom("mtcars.csv")

## Not run:
## Including remote paths

```r
vroom("https://github.com/r-lib/vroom/raw/master/inst/extdata/mtcars.csv")
```

## Or directly from a string (must contain a trailing newline)

```r
vroom("x,y\n1,2\n3,4")
```

### Column selection

Pass column names or indexes directly to select them

```r
vroom(input_file, col_select = c(model, cyl, gear))
```

Or use the selection helpers

```r
vroom(input_file, col_select = starts_with("d"))
```

You can also rename specific columns

```r
vroom(input_file, col_select = list(car = model, everything()))
```

### Column types

By default, `vroom` guesses the column types, looking at 1000 rows throughout the dataset.

You can specify them explicitly with a compact specification:

```r
vroom("x,y\n1,2\n3,4", col_types = "dc")
```

Or with a list of column types:

```r
vroom("x,y\n1,2\n3,4", col_types = list(col_double(), col_character()))
```

### File types

- **csv**

  ```r
  vroom("a,b\n1.0,2.0", delim = ",")
  ``

- **tsv**

  ```r
  vroom("a\tb\n1.0\t2.0")
  ``

Other delimiters

```r
vroom("a|b\n1.0|2.0", delim = "|")
```

---

### vroom_altrep

Show which column types are using Altrep

#### Description

`vroom_altrep()` can be used directly as input to the `altrep` argument of `vroom()`.

#### Usage

```r
vroom_altrep(which = NULL)
```

#### Arguments

- **which**

  A character vector of column types to use Altrep for. Can also take `TRUE` or `FALSE` to use Altrep for all possible or none of the types.
Details

Alternatively there is also a family of environment variables to control use of the Altrep framework. These can then be set in your .Renviron file, e.g. with `usethis::edit_r_environ()`. For versions of R where the Altrep framework is unavailable (R < 3.5.0) they are automatically turned off and the variables have no effect. The variables can take one of `true`, `false`, `TRUE`, `FALSE`, `1`, or `0`.

- `VROOM_USE_ALTREP_NUMERICS` - If set use Altrep for all numeric types (default `false`).

There are also individual variables for each type. Currently only `VROOM_USE_ALTREP_CHR` defaults to `true`.

- `VROOM_USE_ALTREP_CHR`
- `VROOM_USE_ALTREP_FCT`
- `VROOM_USE_ALTREP_INT`
- `VROOM_USE_ALTREP_BIG_INT`
- `VROOM_USE_ALTREP_DBL`
- `VROOM_USE_ALTREP_NUM`
- `VROOM_USE_ALTREP_LGL`
- `VROOM_USE_ALTREP_DTTM`
- `VROOM_USE_ALTREP_DATE`
- `VROOM_USE_ALTREP_TIME`

Examples

```r
vroom_altrep()
vroom_altrep(c("chr", "fct", "int"))
vroom_altrep(TRUE)
vroom_altrep(FALSE)
```

---

**vroom_altrep_opts**  
Show which column types are using Altrep

---

**Description**

**Deprecated** This function is deprecated in favor of `vroom_altrep()`.

**Usage**

```r
vroom_altrep_opts(which = NULL)
```

**Arguments**

- `which`  
  A character vector of column types to use Altrep for. Can also take `TRUE` or `FALSE` to use Altrep for all possible or none of the types
vroom_example  Get path to vroom examples

Description
vroom comes bundled with a number of sample files in its ‘inst/extdata’ directory. Use vroom_examples() to list all the available examples and vroom_example() to retrieve the path to one example.

Usage
vroom_example(path)
vroom_examples(pattern = NULL)

Arguments
path Name of file.
pattern A regular expression of filenames to match. If NULL all available files are returned. listed.

Examples
# List all available examples
vroom_examples()

# Get path to one example
vroom_example("mtcars.csv")

vroom_format  Convert a data frame to a delimited string

Description
This is equivalent to vroom_write(), but instead of writing to disk, it returns a string. It is primarily useful for examples and for testing.

Usage
vroom_format(  
x,  
delim = \"\t\",  
na = "NA",  
col_names = TRUE,  
escape = c("double", "backslash", "none"),  
quote = c("needed", "all", "none"),  
bom = FALSE  
)
Arguments

x A data frame to write to disk
delim Delimiter used to separate values. Defaults to \t to write tab separated value (TSV) files.
na String used for missing values. Defaults to ‘NA’.
col_names Either TRUE, FALSE or a character vector of column names.
   If TRUE, the first row of the input will be used as the column names, and will
   not be included in the data frame. If FALSE, column names will be generated
   automatically: X1, X2, X3 etc.
   If col_names is a character vector, the values will be used as the names of the
   columns, and the first row of the input will be read into the first row of the output
   data frame.
   Missing (NA) column names will generate a warning, and be filled in with dummy
   names X1, X2 etc. Duplicate column names will generate a warning and be made
   unique with a numeric prefix.
escape The type of escape to use when quotes are in the data.
   • double - quotes are escaped by doubling them.
   • backslash - quotes are escaped by a preceding backslash.
   • none - quotes are not escaped.
quote How to handle fields which contain characters that need to be quoted.
   • needed - Only quote fields which need them.
   • all - Quote all fields.
   • none - Never quote fields.
bom If TRUE add a UTF-8 BOM at the beginning of the file. This is recommended
   when saving data for consumption by excel, as it will force excel to read the data
   with the correct encoding (UTF-8)

vroom_fwf

vroom_fwf( read a fixed width file into a tibble

Description

Read a fixed width file into a tibble

Usage

vroom_fwf( file,
   col_positions = fwf_empty(file, skip, n = guess_max),
   col_types = NULL,
   col_select = NULL,
   id = NULL,
   locale = default_locale(),
   na = c("", "NA"),
   comment = "",
   trim_ws = TRUE,
   skip = 0,
n_max = Inf,
guess_max = 100,
altrep = TRUE,
altrep_opts = deprecated(),
num_threads = vroom_threads(),
progress = vroom_progress(),
.name_repair = "unique"
)

fwf_empty(file, skip = 0, col_names = NULL, comment = "", n = 100L)

fwf_widths(widths, col_names = NULL)

fwf_positions(start, end = NULL, col_names = NULL)

fwf_cols(...)

Arguments

file Either a path to a file, a connection, or literal data (either a single string or a raw vector).
Files ending in .gz, .bz2, .xz, or .zip will be automatically uncompressed.
Files starting with http://, https://, ftp://, or ftps:// will be automatically downloaded. Remote gz files can also be automatically downloaded and decompressed.
Literal data is most useful for examples and tests. It must contain at least one new line to be recognised as data (instead of a path) or be a vector of greater than length 1.
Using a value of clipboard() will read from the system clipboard.

col_positions Column positions, as created by ffwf_empty(), ffwf_widths() or ffwf_positions().
To read in only selected fields, use ffwf_positions(). If the width of the last column is variable (a ragged ffwf file), supply the last end position as NA.

col_types One of NULL, a cols() specification, or a string. See vignette("readr") for more details.
If NULL, all column types will be imputed from the first 1000 rows on the input. This is convenient (and fast), but not robust. If the imputation fails, you’ll need to supply the correct types yourself.
If a column specification created by cols(), it must contain one column specification for each column. If you only want to read a subset of the columns, use cols_only().
Alternatively, you can use a compact string representation where each character represents one column: c = character, i = integer, n = number, d = double, l = logical, f = factor, D = date, T = date time, t = time, ? = guess, or _/- to skip the column.

col_select One or more selection expressions, like in dplyr::select(). Use c() or list() to use more than one expression. See ?dplyr::select for details on available selection options.

id Either a string or 'NULL'. If a string, the output will contain a variable with that name with the filename(s) as the value. If 'NULL', the default, no variable will be created.
locale

The locale controls defaults that vary from place to place. The default locale is US-centric (like R), but you can use `locale()` to create your own locale that controls things like the default time zone, encoding, decimal mark, big mark, and day/month names.

na

Character vector of strings to interpret as missing values. Set this option to `character()` to indicate no missing values.

comment

A string used to identify comments. Any text after the comment characters will be silently ignored.

trim_ws

Should leading and trailing whitespace be trimmed from each field before parsing it?

skip

Number of lines to skip before reading data.

n_max

Maximum number of records to read.

guess_max

Maximum number of records to use for guessing column types.

altrep

Control which column types use Altrep representations, either a character vector of types, TRUE or FALSE. See `vroom_altrep()` for full details.

altrep_opts

Deprecated

num_threads

Number of threads to use when reading and materializing vectors. If your data contains embedded newlines (newlines within fields) you must use `num_threads = 1` to read the data properly.

progress

Display a progress bar? By default it will only display in an interactive session and not while knitting a document. The display is updated every 50,000 values and will only display if estimated reading time is 5 seconds or more. The automatic progress bar can be disabled by setting option `readr.show_progress`.

$name_repair

Handling of column names. By default, vroom ensures column names are not empty and unique. See `$name_repair` as documented in `tibble::tibble()` for additional options including supplying user defined name repair functions.

col_names

Either NULL, or a character vector column names.

n

Number of lines the tokenizer will read to determine file structure. By default it is set to 100.

widths

Width of each field. Use NA as width of last field when reading a ragged fwf file.

start, end

Starting and ending (inclusive) positions of each field. Use NA as last end field when reading a ragged fwf file.

... If the first element is a data frame, then it must have all numeric columns and either one or two rows. The column names are the variable names. The column values are the variable widths if a length one vector, and if length two, variable start and end positions. The elements of ... are used to construct a data frame with or two rows as above.

Examples

```r
fwf_sample <- vroom_example("fwf-sample.txt")
cat(readLines(fwf_sample))

# You can specify column positions in several ways:
# 1. Guess based on position of empty columns
vroom_fwf(fwf_sample, fwf_empty(fwf_sample, col_names = c("first", "last", "state", "ssn")))
```
# 2. A vector of field widths
vroom_fwf(fwf_sample, fwf_widths(c(20, 10, 12), c("name", "state", "ssn")))

# 3. Paired vectors of start and end positions
vroom_fwf(fwf_sample, fwf_positions(c(1, 30), c(20, 42), c("name", "ssn")))

# 4. Named arguments with start and end positions
vroom_fwf(fwf_sample, fwf_cols(name = c(1, 20), ssn = c(30, 42)))

# 5. Named arguments with column widths
vroom_fwf(fwf_sample, fwf_cols(name = 20, state = 10, ssn = 12))

---

vroom_lines

Read lines from a file

Description

vroom_lines() is similar to readLines(), however it reads the lines lazily like vroom(), so operations like length(), head(), tail() and sample() can be done much more efficiently without reading all the data into R.

Usage

vroom_lines(
  file,
  n_max = Inf,
  skip = 0,
  altrep = TRUE,
  altrep_opts = deprecated(),
  num_threads = vroom_threads(),
  progress = vroom_progress()
)

Arguments

file                  path to a local file.
n_max                 Maximum number of records to read.
skip                  Number of lines to skip before reading data.
altrep                Control which column types use Altrep representations, either a character vector of types, TRUE or FALSE. See vroom_altrep() for for full details.
altrep_opts           Deprecated
num_threads           Number of threads to use when reading and materializing vectors. If your data contains embedded newlines (newlines within fields) you must use num_threads = 1 to read the data properly.
progress              Display a progress bar? By default it will only display in an interactive session and not while knitting a document. The display is updated every 50,000 values and will only display if estimated reading time is 5 seconds or more. The automatic progress bar can be disabled by setting option readr.show_progress to FALSE.
Examples

```r
lines <- vroom_lines(vroom_example("mtcars.csv"))

length(lines)
head(lines, n = 2)
tail(lines, n = 2)
sample(lines, size = 2)
```

---

**vroom_progress**  
*Determine if progress bars should be shown*

### Description

Progress bars are shown *unless* one of the following is TRUE:

- The bar is explicitly disabled by setting `Sys.getenv("VROOM_SHOW_PROGRESS"="false")`.
- The code is run in a non-interactive session (`interactive()` is `FALSE`).
- The code is run in an RStudio notebook chunk.
- The code is run by knitr / rmarkdown.
- The code is run by testthat (the TESTTHAT env var is true).

### Usage

```r
vroom_progress()
```

### Examples

```r
vroom_progress()
```

---

**vroom_str**  
*Structure of objects*

### Description

Similar to `str()` but with more information for Altrep objects.

### Usage

```r
vroom_str(x)
```

### Arguments

- `x`  
a vector

### Examples

```
# when used on non-altrep objects altrep will always be false
vroom_str(mtcars)

mt <- vroom(vroom_example("mtcars.csv"), ",", altrep = c("chr", "dbl"))
vroom_str(mt)
```
vroom_write

Write a data frame to a delimited file

Description

Write a data frame to a delimited file

Usage

vroom_write(
  x,
  path,
  delim = "\t",
  na = "NA",
  col_names = !append,
  append = FALSE,
  quote = c("needed", "all", "none"),
  escape = c("double", "backslash", "none"),
  bom = FALSE,
  num_threads = vroom_threads(),
  progress = vroom_progress()
)

Arguments

x                   A data frame to write to disk
path                Path or connection to write to.
delim               Delimiter used to separate values. Defaults to \t to write tab separated value (TSV) files.
na                  String used for missing values. Defaults to 'NA'.
col_names           Either TRUE, FALSE or a character vector of column names.
                      If TRUE, the first row of the input will be used as the column names, and will not be included in the data frame. If FALSE, column names will be generated automatically: X1, X2, X3 etc.
                      If col_names is a character vector, the values will be used as the names of the columns, and the first row of the input will be read into the first row of the output data frame.
                      Missing (NA) column names will generate a warning, and be filled in with dummy names X1, X2 etc. Duplicate column names will generate a warning and be made unique with a numeric prefix.
append               If FALSE, will overwrite existing file. If TRUE, will append to existing file. In both cases, if file does not exist a new file is created.
quote                How to handle fields which contain characters that need to be quoted.
                      • needed - Only quote fields which need them.
                      • all - Quote all fields.
                      • none - Never quote fields.
escape               The type of escape to use when quotes are in the data.
vroom_write

- double - quotes are escaped by doubling them.
- backslash - quotes are escaped by a preceding backslash.
- none - quotes are not escaped.

bom

If TRUE add a UTF-8 BOM at the beginning of the file. This is recommended when saving data for consumption by excel, as it will force excel to read the data with the correct encoding (UTF-8)

num_threads

Number of threads to use when reading and materializing vectors. If your data contains embedded newlines (newlines within fields) you must use num_threads = 1 to read the data properly.

progress

Display a progress bar? By default it will only display in an interactive session and not while knitting a document. The display is updated every 50,000 values and will only display if estimated reading time is 5 seconds or more. The automatic progress bar can be disabled by setting option readr.show_progress to FALSE.

Examples

# If you only specify a file name, vroom_write() will write
# the file to your current working directory.
out_file <- tempfile(fileext = "csv")
vroom_write(mtcars, out_file, ",")

# You can also use a literal filename
# vroom_write(mtcars, "mtcars.tsv")

# If you add an extension to the file name, write_()* will
# automatically compress the output.
# vroom_write(mtcars, "mtcars.tsv.gz")
# vroom_write(mtcars, "mtcars.tsv.bz2")
# vroom_write(mtcars, "mtcars.tsv.xz")
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