

Package ‘mmapcharr’

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Title Memory-Map Character Files

Version 0.3.0

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Description Uses memory-mapping to enable the random access of elements of a text file of characters separated by characters as if it were a simple R(cpp) matrix.

Encoding UTF-8

License GPL-3

LazyData TRUE

ByteCompile TRUE

Depends R (>= 3.3.0)

Imports methods, Rcpp

LinkingTo Rcpp, rmio

Suggests covr, testthat

RoxygenNote 6.1.0.9000

URL <https://github.com/privefl/mmapcharr>

BugReports <https://github.com/privefl/mmapcharr/issues>

Collate 'RcppExports.R' 'extract.R' 'file-dim.R' 'mmapchar.R'
'mmapcharr-package.r' 'utils.R'

NeedsCompilation yes

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dim_file	<i>File dimensions</i>
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Description

Number of lines and columns of file (and extra 'return' characters).

Usage

```
dim_file(file)
```

Arguments

file	Path to file.
------	---------------

Value

The number of lines and columns of file (and extra 'return' characters).

Examples

```
tmpfile <- tempfile()
write(0:9, tmpfile, ncolumns = 2)
dim_file(tmpfile)
```

 Extract

Create an Implementation of [For Custom Matrix-Like Types

Description

`extract` is a function that converts different index types such as negative integer vectors or logical vectors passed to the `[` function as `i` (e.g. `X[i]`) or `i` and `j` (e.g. `X[i, j]`) into positive integer vectors. The converted indices are provided as the `i` parameter of `extract_vector` or `i` and `j` parameters of `extract_matrix` to facilitate implementing the extraction mechanism for custom matrix-like types.

Usage

```
Extract(extract_vector, extract_matrix)
```

Arguments

- `extract_vector` A function in the form of `function(x, i)` that takes a subset of `x` based on a single vector of indices `i` and returns a vector.
- `extract_matrix` A function in the form of `function(x, i, j)` that takes a subset of `x` based on two vectors of indices `i` and `j` and returns a matrix.

Details

The custom type must implement methods for `dim` for this function to work. Implementing methods for `nrow` and `ncol` is not necessary as the default method of those generics calls `dim` internally.

This idea initially comes from [package `crochet`](#).

Value

A function in the form of `function(x, i, j, ..., drop = TRUE)` that is meant to be used as a method for `[` for a custom type.

 mmapchar-class

Class `mmapchar`

Description

A reference class for storing and accessing matrix-like data stored on disk in files containing only characters (digits) separated by a character.

Usage

```
mmapchar(file, code)
```

Arguments

file	Path of the file.
code	Integer vector of size 256 to access integers instead of <code>rawToChar</code> (as <code>.raw(0:255)</code> , <code>multiple = TRUE</code>). See <code>mmapcharr:::CODE_012</code> and <code>mmapcharr:::CODE_DIGITS</code> .

Examples

```
test_file <- system.file("testdata/test-windows.txt", package = "mmapcharr")
test <- mmapchar(test_file, code = mmapcharr:::CODE_012)
test[, 1:3]
test[]
readLines(test_file)
```

mmapchar-methods

Methods for the mmapchar class

Description

Methods for the `mmapchar` class

Accessor methods for class `mmapchar`. You can use positive and negative indices, logical indices (that are recycled) and also a matrix of indices (but only positive ones).

Dimension and type methods for class `mmapchar`.

Usage

```
## S4 method for signature 'mmapchar'
x[i, j, ..., drop = TRUE]

## S4 method for signature 'mmapchar'
dim(x)

## S4 method for signature 'mmapchar'
length(x)
```

Arguments

x	A mmapchar object.
i	A vector of indices (or nothing). You can use positive and negative indices, logical indices (that are recycled) and also a matrix of indices (but only positive ones).
j	A vector of indices (or nothing). You can use positive and negative indices, logical indices (that are recycled).
...	Not used. Just to make nargs works.
drop	Whether to delete the dimensions of a matrix which have one dimension equals to 1.

mmapcharr	<i>mmapcharr.</i>
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Description

mmapcharr.

nelem	<i>Size of line</i>
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Description

Number of elements of each line of a file.

Usage

nelem(file)

Arguments

file Path to file.

Value

The number of elements of each line of a file.

Examples

```
tmpfile <- tempfile()
write(1:10, tmpfile, ncolumns = 2)
nline(tmpfile)
```

nline	<i>Number of lines</i>
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Description

Number of lines of a file.

Usage

nline(file)

Arguments

`file` Path to file.

Value

The number of lines of the file.

Examples

```
tmpfile <- tempfile()
write(1:5, tmpfile, ncolumns = 1)
nline(tmpfile)
```

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