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Contents

copy . . . 3
create . . . 4
delete . . . 5
dir_ls . . . 6
dir_tree . . . 8
file_access . . . 9
file_chmod . . . 10
file_chown . . . 11
file_info . . . 11
file_move . . . 13
file_show . . . 13
file_temp . . . 14
file_touch . . . 15
fs_bytes . . . 16
fs_path . . . 16
fs_perms . . . 17
id . . . 18
is_absolute_path . . . 19
is_dir_empty . . . 19
is_file . . . 20
link_path . . . 21
path . . . 22
path_expand . . . 22
path_file . . . 24
path_filter . . . 25
path_math . . . 25
path_package . . . 27
path_sanitize . . . 28
path_select_components . . . 29
path_tidy . . . 30

Index **31**

copy *Copy files, directories or links*

Description

`file_copy()` copies files.

`link_copy()` creates a new link pointing to the same location as the previous link.

`dir_copy()` copies the directory recursively at the new location.

Usage

```
file_copy(path, new_path, overwrite = FALSE)

dir_copy(path, new_path, overwrite = FALSE)

link_copy(path, new_path, overwrite = FALSE)
```

Arguments

`path`	A character vector of one or more paths.
`new_path`	A character vector of paths to the new locations.
`overwrite`	Overwrite files if they exist. If this is `FALSE` and the file exists an error will be thrown.

Details

The behavior of `dir_copy()` differs slightly than that of `file.copy()` when `overwrite = TRUE`. The directory will always be copied to `new_path`, even if the name differs from the basename of `path`.

Value

The new path (invisibly).

Examples

```
file_create("foo")
file_copy("foo", "bar")
try(file_copy("foo", "bar"))
file_copy("foo", "bar", overwrite = TRUE)
file_delete(c("foo", "bar"))

dir_create("foo")
# Create a directory and put a few files in it
files <- file_create(c("foo/bar", "foo/baz"))
file_exists(files)
```

```
# Copy the directory
dir_copy("foo", "foo2")
file_exists(path("foo2", path_file(files)))

# Create a link to the directory
link_create(path_abs("foo"), "loo")
link_path("loo")
link_copy("loo", "loo2")
link_path("loo2")

# Cleanup
dir_delete(c("foo", "foo2"))
link_delete(c("loo", "loo2"))
```

`create` *Create files, directories, or links*

Description

The functions `file_create()` and `dir_create()` ensure that `path` exists; if it already exists it will be left unchanged. That means that compared to `file.create()`, `file_create()` will not truncate an existing file, and compared to `dir.create()`, `dir_create()` will silently ignore existing directories.

Usage

```
file_create(path, ..., mode = "u=rw,go=r")

dir_create(path, ..., mode = "u=rwx,go=rx", recurse = TRUE, recursive)

link_create(path, new_path, symbolic = TRUE)
```

Arguments

`path`	A character vector of one or more paths. For `link_create()`, this is the target.
`...`	Additional arguments passed to `path()`
`mode`	If file/directory is created, what mode should it have? Links do not have mode; they inherit the mode of the file they link to.
`recurse`	should intermediate directories be created if they do not exist?
`recursive`	(Deprecated) If `TRUE` recurse fully.
`new_path`	The path where the link should be created.
`symbolic`	Boolean value determining if the link should be a symbolic (the default) or hard link.

Value

The path to the created object (invisibly).

Examples

```
file_create("foo")
is_file("foo")
# dir_create applied to the same path will fail
try(dir_create("foo"))

dir_create("bar")
is_dir("bar")
# file_create applied to the same path will fail
try(file_create("bar"))

# Cleanup
file_delete("foo")
dir_delete("bar")
```

---

delete *Delete files, directories, or links*

Description

`file_delete()` and `link_delete()` delete file and links. Compared to file.remove they always fail if they cannot delete the object rather than changing return value or signalling a warning. If any inputs are directories, they are passed to `dir_delete()`, so `file_delete()` can therefore be used to delete any filesystem object.

`dir_delete()` will first delete the contents of the directory, then remove the directory. Compared to unlink it will always throw an error if the directory cannot be deleted rather than being silent or signalling a warning.

Usage

```
file_delete(path)

dir_delete(path)

link_delete(path)
```

Arguments

`path`	A character vector of one or more paths.

Value

The deleted paths (invisibly).

Examples

```
# create a directory, with some files and a link to it
dir_create("dir")
files <- file_create(path("dir", letters[1:5]))
link <- link_create(path_abs("dir"), "link")

# All files created
dir_exists("dir")
file_exists(files)
link_exists("link")
file_exists(link_path("link"))

# Delete a file
file_delete(files[1])
file_exists(files[1])

# Delete the directory (which deletes the files as well)
dir_delete("dir")
file_exists(files)
dir_exists("dir")

# The link still exists, but what it points to does not.
link_exists("link")
dir_exists(link_path("link"))

# Delete the link
link_delete("link")
link_exists("link")
```

`dir_ls` *List files*

Description

`dir_ls()` is equivalent to the `ls` command. It returns filenames as a named `fs_path` character vector. The names are equivalent to the values, which is useful for passing onto functions like `purrr::map_dfr()`.

`dir_info()` is equivalent to `ls -l` and a shortcut for `file_info(dir_ls())`.

`dir_map()` applies a function `fun()` to each entry in the path and returns the result in a list.

`dir_walk()` calls `fun` for its side-effect and returns the input `path`.

Usage

```
dir_ls(
  path = ".",
  all = FALSE,
  recurse = FALSE,
```

```
  type = "any",
  glob = NULL,
  regexp = NULL,
  invert = FALSE,
  fail = TRUE,
  ...,
  recursive
)

dir_map(
  path = ".",
  fun,
  all = FALSE,
  recurse = FALSE,
  type = "any",
  fail = TRUE
)

dir_walk(
  path = ".",
  fun,
  all = FALSE,
  recurse = FALSE,
  type = "any",
  fail = TRUE
)

dir_info(
  path = ".",
  all = FALSE,
  recurse = FALSE,
  type = "any",
  regexp = NULL,
  glob = NULL,
  fail = TRUE,
  ...
)
```

Arguments

path	A character vector of one or more paths.
all	If TRUE hidden files are also returned.
recurse	If TRUE recurse fully, if a positive number the number of levels to recurse.
type	File type(s) to return, one or more of "any", "file", "directory", "symlink", "FIFO", "socket", "character_device" or "block_device".
glob	A wildcard aka globbing pattern (e.g. `*.csv`) passed on to `grep()` to filter paths.
regexp	A regular expression (e.g. `[.]csv$`) passed on to `grep()` to filter paths.

invert	If TRUE return files which do *not* match
fail	Should the call fail (the default) or warn if a file cannot be accessed.
...	Additional arguments passed to grep.
recursive	(Deprecated) If TRUE recurse fully.
fun	A function, taking one parameter, the current path entry.

Examples

```
dir_ls(R.home("share"), type = "directory")

# Create a shorter link
link_create(system.file(package = "base"), "base")

dir_ls("base", recurse = TRUE, glob = "*.R")

# If you need the full paths input an absolute path
dir_ls(path_abs("base"))

dir_map("base", identity)

dir_walk("base", str)

dir_info("base")

# Cleanup
link_delete("base")
```

---

dir_tree *Print contents of directories in a tree-like format*

Description

Print contents of directories in a tree-like format

Usage

```
dir_tree(path = ".", recurse = TRUE, ...)
```

Arguments

path	A path to print the tree from
recurse	If TRUE recurse fully, if a positive number the number of levels to recurse.
...	Arguments passed on to dir_ls type File type(s) to return, one or more of "any", "file", "directory", "symlink", "FIFO", "socket", "character_device" or "block_device". all If TRUE hidden files are also returned.

`fail` Should the call fail (the default) or warn if a file cannot be accessed.

`glob` A wildcard aka globbing pattern (e.g. `*.csv`) passed on to `grep()` to filter paths.

`regexp` A regular expression (e.g. `[.]csv$`) passed on to `grep()` to filter paths.

`invert` If `TRUE` return files which do *not* match

`file_access` *Query for existence and access permissions*

Description

- `file_exists(path)` is a shortcut for `file_access(x, "exists")`
- `dir_exists(path)` and `link_exists(path)` are similar but also check that the path is a directory or link, respectively. (`file_exists(path)` returns `TRUE` if `path` exists and it is a directory. Use `is_file()` to check for file (not directory) existence)

Usage

```
file_access(path, mode = "exists")

file_exists(path)

dir_exists(path)

link_exists(path)
```

Arguments

`path`	A character vector of one or more paths.
`mode`	A character vector containing one or more of 'exists', 'read', 'write', 'execute'.

Details

Cross-compatibility warning: There is no executable bit on Windows. Checking a file for mode 'execute' on Windows, e.g. `file_access(x, "execute")` will always return `TRUE`.

Value

A logical vector, with names corresponding to the input `path`.

Examples

```
file_access("/")
file_access("/", "read")
file_access("/", "write")

file_exists("WOMBATS")
```

`file_chmod` *Change file permissions*

Description

Change file permissions

Usage

```
file_chmod(path, mode)
```

Arguments

`path`	A character vector of one or more paths.
`mode`	A character representation of the mode, in either hexidecimal or symbolic format.

Details

Cross-compatibility warning: File permissions differ on Windows from POSIX systems. Windows does not use an executable bit, so attempting to change this will have no effect. Windows also does not have user groups, so only the user permissions (`u`) are relevant.

Examples

```
file_create("foo", mode = "000")
file_chmod("foo", "777")
file_info("foo")$permissions

file_chmod("foo", "u-x")
file_info("foo")$permissions

file_chmod("foo", "a-wrx")
file_info("foo")$permissions

file_chmod("foo", "u+wr")
file_info("foo")$permissions

# It is also vectorized
files <- c("foo", file_create("bar", mode = "000"))
file_chmod(files, "a+rwx")
file_info(files)$permissions

file_chmod(files, c("644", "600"))
file_info(files)$permissions
```

file_chown *Change owner or group of a file*

Description

Change owner or group of a file

Usage

```
file_chown(path, user_id = NULL, group_id = NULL)
```

Arguments

path	A character vector of one or more paths.
user_id	The user id of the new owner, specified as a numeric ID or name. The R process must be privileged to change this.
group_id	The group id of the new owner, specified as a numeric ID or name.

file_info *Query file metadata*

Description

Compared to `file.info()` the full results of a `stat(2)` system call are returned and some columns are returned as S3 classes to make manipulation more natural. On systems which do not support all metadata (such as Windows) default values are used.

Usage

```
file_info(path, fail = TRUE, follow = FALSE)

file_size(path, fail = TRUE)
```

Arguments

path	A character vector of one or more paths.
fail	Should the call fail (the default) or warn if a file cannot be accessed.
follow	If `TRUE`, symbolic links will be followed (recursively) and the results will be that of the final file rather than the link.

Value

A data.frame with metadata for each file. Columns returned are as follows.

`path`	The input path, as a `fs_path()` character vector.
`type`	The file type, as a factor of file types.
`size`	The file size, as a `fs_bytes()` numeric vector.
`permissions`	The file permissions, as a `fs_perms()` integer vector.
`modification_time`	The time of last data modification, as a POSIXct datetime.
`user`	The file owner name - as a character vector.
`group`	The file group name - as a character vector.
`device_id`	The file device id - as a numeric vector.
`hard_links`	The number of hard links to the file - as a numeric vector.
`special_device_id`	The special device id of the file - as a numeric vector.
`inode`	The inode of the file - as a numeric vector.
`block_size`	The optimal block for the file - as a numeric vector.
`blocks`	The number of blocks allocated for the file - as a numeric vector.
`flags`	The user defined flags for the file - as an integer vector.
`generation`	The generation number for the file - as a numeric vector.
`access_time`	The time of last access - as a POSIXct datetime.
`change_time`	The time of last file status change - as a POSIXct datetime.
`birth_time`	The time when the inode was created - as a POSIXct datetime.

See Also

`dir_info()` to display file information for files in a given directory.

Examples

```
write.csv(mtcars, "mtcars.csv")
file_info("mtcars.csv")

# Files in the working directory modified more than 20 days ago
files <- file_info(dir_ls())
files$path[difftime(Sys.time(), files$modification_time, units = "days") > 20]

# Cleanup
file_delete("mtcars.csv")
```

file_move *Move or rename files*

Description

Compared to file.rename `file_move()` always fails if it is unable to move a file, rather than signaling a Warning and returning an error code.

Usage

```
file_move(path, new_path)
```

Arguments

`path`	A character vector of one or more paths.
`new_path`	New file path. If `new_path` is existing directory, the file will be moved into that directory; otherwise it will be moved/renamed to the full path. Should either be the same length as `path`, or a single directory.

Value

The new path (invisibly).

Examples

```
file_create("foo")
file_move("foo", "bar")
file_exists(c("foo", "bar"))
file_delete("bar")
```

file_show *Open files or directories*

Description

Open files or directories

Usage

```
file_show(path = ".", browser = getOption("browser"))
```

Arguments

path	A character vector of one or more paths.
browser	a non-empty character string giving the name of the program to be used as the HTML browser. It should be in the PATH, or a full path specified. Alternatively, an R function to be called to invoke the browser. Under Windows NULL is also allowed (and is the default), and implies that the file association mechanism will be used.

Value

The directories that were opened (invisibly).

---

file_temp *Create names for temporary files*

Description

file_temp() returns the name which can be used as a temporary file.

Usage

```
file_temp(pattern = "file", tmp_dir = tempdir(), ext = "")

file_temp_push(path)

file_temp_pop()

path_temp(...)
```

Arguments

pattern	A character vector with the non-random portion of the name.
tmp_dir	The directory the file will be created in.
ext	The file extension of the temporary file.
path	A character vector of one or more paths.
...	Additional paths appended to the temporary directory by path().

Details

file_temp_push() can be used to supply deterministic entries in the temporary file stack. This can be useful for reproducibility in like example documentation and vignettes.

file_temp_pop() can be used to explicitly remove an entry from the internal stack, however generally this is done instead by calling file_temp().

path_temp() constructs a path within the session temporary directory.

Examples

```
path_temp()
path_temp("does-not-exist")

file_temp()
file_temp(ext = "png")
file_temp("image", ext = "png")


# You can make the temp file paths deterministic
file_temp_push(letters)
file_temp()
file_temp()

# Or explicitly remove values
while (!is.null(file_temp_pop())) next
file_temp_pop()
```

`file_touch` *Change file access and modification times*

Description

Like the touch POSIX utility this will create the file if it does not exist.

Usage

```
file_touch(path, access_time = Sys.time(), modification_time = access_time)
```

Arguments

`path`	A character vector of one or more paths.
`access_time`, `modification_time`	The times to set, inputs will be coerced to POSIXct objects.

Examples

```
file_touch("foo", "2018-01-01")
file_info("foo")[c("access_time", "modification_time", "change_time", "birth_time")]
```

fs_bytes *Human readable file sizes*

Description

Construct, manipulate and display vectors of file sizes. These are numeric vectors, so you can compare them numerically, but they can also be compared to human readable values such as '10MB'.

Usage

```
as_fs_bytes(x)

fs_bytes(x)
```

Arguments

x	A numeric or character vector. Character representations can use shorthand sizes (see examples).

Examples

```
fs_bytes("1")
fs_bytes("1K")
fs_bytes("1Kb")
fs_bytes("1Kib")
fs_bytes("1MB")

fs_bytes("1KB") < "1MB"

sum(fs_bytes(c("1MB", "5MB", "500KB")))
```

fs_path *File paths*

Description

Tidy file paths, character vectors which are coloured by file type on capable terminals.

Colouring can be customized by setting the `LS_COLORS` environment variable, the format is the same as that read by GNU ls / dircolors.

Colouring of file paths can be disabled by setting `LS_COLORS` to an empty string e.g. `Sys.setenv(LS_COLORS = "")`.

Usage

```
as_fs_path(x)

fs_path(x)
```

Arguments

x	vector to be coerced to a fs_path object.

See Also

https://geoff.greer.fm/lscolors, https://github.com/trapd00r/LS_COLORS, https://github.com/seebi/dircolors-solarized for some example colour settings.

---

fs_perms *Create, modify and view file permissions*

Description

`fs_perms()` objects help one create and modify file permissions easily. They support both numeric input, octal and symbolic character representations. Compared to octmode they support symbolic representations and display the mode the same format as `ls` on POSIX systems.

Usage

```
as_fs_perms(x, ...)

fs_perms(x, ...)
```

Arguments

x	An object which is to be coerced to a fs_perms object. Can be an number or octal character representation, including symbolic representations.
...	Additional arguments passed to methods.

Details

On POSIX systems the permissions are displayed as a 9 character string with three sets of three characters. Each set corresponds to the permissions for the user, the group and other (or default) users.

If the first character of each set is a "r", the file is readable for those users, if a "-", it is not readable.

If the second character of each set is a "w", the file is writable for those users, if a "-", it is not writable.

The third character is more complex, and is the first of the following characters which apply.

- 'S' If the character is part of the owner permissions and the file is not executable or the directory is not searchable by the owner, and the set-user-id bit is set.
- 'S' If the character is part of the group permissions and the file is not executable or the directory is not searchable by the group, and the set-group-id bit is set.
- 'T' If the character is part of the other permissions and the file is not executable or the directory is not searchable by others, and the 'sticky' (S_ISVTX) bit is set.

- 's' If the character is part of the owner permissions and the file is executable or the directory searchable by the owner, and the set-user-id bit is set.
- 's' If the character is part of the group permissions and the file is executable or the directory searchable by the group, and the set-group-id bit is set.
- 't' If the character is part of the other permissions and the file is executable or the directory searchable by others, and the "sticky" (S_ISVTX) bit is set.
- 'x' The file is executable or the directory is searchable.
- '-' If none of the above apply. Most commonly the third character is either 'x' or `-`.

On Windows the permissions are displayed as a 3 character string where the third character is only `-` or `x`.

Examples

```
# Integer and numeric
fs_perms(420L)
fs_perms(c(511, 420))

# Octal
fs_perms("777")
fs_perms(c("777", "644"))

# Symbolic
fs_perms("a+rwx")
fs_perms(c("a+rwx", "u+rw,go+r"))

# Use the `&` and `|`operators to check for certain permissions
(fs_perms("777") & "u+r") == "u+r"
```

---

id *Lookup Users and Groups on a system*

Description

These functions use the GETPWENT(3) and GETGRENT(3) system calls to query users and groups respectively.

Usage

```
group_ids()

user_ids()
```

Value

They return their results in a `data.frame`. On windows both functions return an empty `data.frame` because windows does not have user or group ids.

Examples

```
# list first 6 groups
head(group_ids())

# list first 6 users
head(user_ids())
```

---

is_absolute_path *Test if a path is an absolute path*

Description

Test if a path is an absolute path

Usage

```
is_absolute_path(path)
```

Arguments

path	A character vector of one or more paths.

Examples

```
is_absolute_path("/foo")
is_absolute_path("C:\\foo")
is_absolute_path("\\\\myserver\\foo\\bar")

is_absolute_path("foo/bar")
```

---

is_dir_empty *Check if a directory is empty*

Description

This function checks whether a given directory is empty or not.

Usage

```
is_dir_empty(path)
```

Arguments

path	A character string specifying the path to the directory to check.

Value

A logical value. Returns TRUE if the directory is empty, FALSE otherwise.

Examples

```
## Not run:
is_dir_empty("path/to/empty/directory")  # Returns TRUE
is_dir_empty("path/to/non-empty/directory")  # Returns FALSE

## End(Not run)
```

---

is_file *Functions to test for file types*

Description

Functions to test for file types

Usage

```
is_file(path, follow = TRUE)

is_dir(path, follow = TRUE)

is_link(path)

is_file_empty(path, follow = TRUE)
```

Arguments

path	A character vector of one or more paths.
follow	If TRUE, symbolic links will be followed (recursively) and the results will be that of the final file rather than the link.

Value

A named logical vector, where the names give the paths. If the given object does not exist, NA is returned.

See Also

file_exists(), dir_exists() and link_exists() if you want to ensure that the path also exists.

Examples

```
dir_create("d")

file_create("d/file.txt")
dir_create("d/dir")
link_create(path(path_abs("d"), "file.txt"), "d/link")

paths <- dir_ls("d")
is_file(paths)
is_dir(paths)
is_link(paths)

# Cleanup
dir_delete("d")
```

---

link_path *Read the value of a symbolic link*

Description

Read the value of a symbolic link

Usage

```
link_path(path)
```

Arguments

path	A character vector of one or more paths.

Value

A tidy path to the object the link points to.

Examples

```
file_create("foo")
link_create(path_abs("foo"), "bar")
link_path("bar")

# Cleanup
file_delete(c("foo", "bar"))
```

path *Construct path to a file or directory*

Description

`path()` constructs a relative path, `path_wd()` constructs an absolute path from the current working directory.

Usage

```
path(..., ext = "")

path_wd(..., ext = "")
```

Arguments

`...`	character vectors, if any values are NA, the result will also be NA. The paths follow the recycling rules used in the tibble package, namely that only length 1 arguments are recycled.
`ext`	An optional extension to append to the generated path.

See Also

`path_home()`, `path_package()` for functions to construct paths relative to the home and package directories respectively.

Examples

```
path("foo", "bar", "baz", ext = "zip")

path("foo", letters[1:3], ext = "txt")
```

path_expand *Finding the User Home Directory*

Description

- `path_expand()` performs tilde expansion on a path, replacing instances of `~` or `~user` with the user's home directory.
- `path_home()` constructs a path within the expanded users home directory, calling it with *no* arguments can be useful to verify what fs considers the home directory.
- `path_expand_r()` and `path_home_r()` are equivalents which always use R's definition of the home directory.

Usage

```
path_expand(path)

path_expand_r(path)

path_home(...)

path_home_r(...)
```

Arguments

path	A character vector of one or more paths.
...	Additional paths appended to the home directory by `path()`.

Details

`path_expand()` differs from `base::path.expand()` in the interpretation of the home directory of Windows. In particular `path_expand()` uses the path set in the `USERPROFILE` environment variable and, if unset, then uses `HOMEDRIVE/HOMEPATH`.

In contrast `base::path.expand()` first checks for `R_USER` then `HOME`, which in the default configuration of R on Windows are both set to the user's document directory, e.g. `C:\\Users\\username\\Documents`. `base::path.expand()` also does not support `~otheruser` syntax on Windows, whereas `path_expand()` does support this syntax on all systems.

This definition makes fs more consistent with the definition of home directory used on Windows in other languages, such as python and rust. This is also more compatible with external tools such as git and ssh, both of which put user-level files in `USERPROFILE` by default. It also allows you to write portable paths, such as `~/Desktop` that points to the Desktop location on Windows, macOS and (most) Linux systems.

Users can set the `R_FS_HOME` environment variable to override the definitions on any platform.

See Also

R for Windows FAQ - 2.14 for behavior of `base::path.expand()`.

Examples

```
# Expand a path
path_expand("~/bin")

# You can use `path_home()` without arguments to see what is being used as
# the home diretory.
path_home()
path_home("R")

# This will likely differ from the above on Windows
path_home_r()
```

path_file *Manipulate file paths*

Description

- path_file() returns the filename portion of the path
- path_dir() returns the directory portion of the path
- path_ext() returns the last extension (if any) for a path
- path_ext_remove() removes the last extension and returns the rest of the path
- path_ext_set() replaces the extension with a new extension. If there is no existing extension the new extension is appended

Usage

```
path_file(path)

path_dir(path)

path_ext(path)

path_ext_remove(path)

path_ext_set(path, ext)

path_ext(path) <- value
```

Arguments

path	A character vector of one or more paths.
ext, value	The new file extension.

Details

Note because these are not full file paths they return regular character vectors, not fs_path objects.

See Also

base::basename(), base::dirname()

Examples

```
path_file("dir/file.zip")

path_dir("dir/file.zip")

path_ext("dir/file.zip")
```

```
path_ext("file.tar.gz")

path_ext_remove("file.tar.gz")

# Only one level of extension is removed
path_ext_set(path_ext_remove("file.tar.gz"), "zip")
```

`path_filter` *Filter paths*

Description

Filter paths

Usage

```
path_filter(path, glob = NULL, regexp = NULL, invert = FALSE, ...)
```

Arguments

`path`	A character vector of one or more paths.
`glob`	A wildcard aka globbing pattern (e.g. `*.csv`) passed on to `grep()` to filter paths.
`regexp`	A regular expression (e.g. `[.]csv$`) passed on to `grep()` to filter paths.
`invert`	If `TRUE` return files which do *not* match
`...`	Additional arguments passed to grep.

Examples

```
path_filter(c("foo", "boo", "bar"), glob = "*oo")
path_filter(c("foo", "boo", "bar"), glob = "*oo", invert = TRUE)

path_filter(c("foo", "boo", "bar"), regexp = "b.r")
```

`path_math` *Path computations*

Description

All functions apart from `path_real()` are purely path computations, so the files in question do not need to exist on the filesystem.

Usage

```
path_real(path)

path_split(path)

path_join(parts)

path_abs(path, start = ".")

path_norm(path)

path_rel(path, start = ".")

path_common(path)

path_has_parent(path, parent)
```

Arguments

path	A character vector of one or more paths.
parts	A character vector or a list of character vectors, corresponding to split paths.
start	A starting directory to compute the path relative to.
parent	The parent path.

Value

The new path(s) in an `fs_path` object, which is a character vector that also has class `fs_path`. Except `path_split()`, which returns a list of character vectors of path components.

Functions

- `path_real()`: returns the canonical path, eliminating any symbolic links and the special references `~`, `~user`, `.`, and `..`, , i.e. it calls `path_expand()` (literally) and `path_norm()` (effectively).
- `path_split()`: splits paths into parts.
- `path_join()`: joins parts together. The inverse of `path_split()`. See `path()` to concatenate vectorized strings into a path.
- `path_abs()`: returns a normalized, absolute version of a path.
- `path_norm()`: eliminates `.` references and rationalizes up-level `..` references, so `A/./B` and `A/foo/../B` both become `A/B`, but `../B` is not changed. If one of the paths is a symbolic link, this may change the meaning of the path, so consider using `path_real()` instead.
- `path_rel()`: computes the path relative to the `start` path, which can be either an absolute or relative path.
- `path_common()`: finds the common parts of two (or more) paths.
- `path_has_parent()`: determine if a path has a given parent.

See Also

path_expand() for expansion of user's home directory.

Examples

```
dir_create("a")
file_create("a/b")
link_create(path_abs("a"), "c")

# Realize the path
path_real("c/b")

# Split a path
parts <- path_split("a/b")
parts

# Join it together
path_join(parts)

# Find the absolute path
path_abs("..")

# Normalize a path
path_norm("a/../b\\c/.")

# Compute a relative path
path_rel("/foo/abc", "/foo/bar/baz")

# Find the common path between multiple paths
path_common(c("/foo/bar/baz", "/foo/bar/abc", "/foo/xyz/123"))

# Cleanup
dir_delete("a")
link_delete("c")
```

---

path_package *Construct a path to a location within an installed or development package*

Description

path_package differs from system.file() in that it always returns an error if the package does not exist. It also returns a different error if the file within the package does not exist.

Usage

```
path_package(package, ...)
```

Arguments

package	Name of the package to in which to search
...	Additional paths appended to the package path by path().

Details

path_package() also automatically works with packages loaded with devtools even if the path_package() call comes from a different package.

Examples

```
path_package("base")
path_package("stats")
path_package("base", "INDEX")
path_package("splines", "help", "AnIndex")
```

---

path_sanitize *Sanitize a filename by removing directory paths and invalid characters*

Description

path_sanitize() removes the following:

- Control characters
- Reserved characters
- Unix reserved filenames (. and ..)
- Trailing periods and spaces (invalid on Windows)
- Windows reserved filenames (CON, PRN, AUX, NUL, COM1, COM2, COM3, COM4, COM5, COM6, COM7, COM8, COM9, LPT1, LPT2, LPT3, LPT4, LPT5, LPT6, LPT7, LPT8, and LPT9) The resulting string is then truncated to 255 bytes in length

Usage

```
path_sanitize(filename, replacement = "")
```

Arguments

filename	A character vector to be sanitized.
replacement	A character vector used to replace invalid characters.

See Also

https://www.npmjs.com/package/sanitize-filename, upon which this function is based.

Examples

```
# potentially unsafe string
str <- "~/.\u0001ssh/authorized_keys"
path_sanitize(str)

path_sanitize("..")
```

`path_select_components` *Select path components by their position/index.*

Description

`path_select_components()` allows to select individual components from an `fs_path` object via their index.

Usage

```
path_select_components(path, index, from = c("start", "end"))
```

Arguments

`path`	A path of class `fs_path`.
`index`	An integer vector of path positions. (A negative index will work according to R's usual subsetting rules.)
`from`	A character of either `"start"` or `"end"` to choose if indexing should start from the first or last component of the `path`.

Details

`path_select_components()` is vectorized.

Value

An `fs_path` object, which is a character vector that also has class `fs_path`.

Examples

```
path <- fs::path("some", "simple", "path", "to", "a", "file.txt")

path_select_components(path, 1:3)

path_select_components(path, 1:3, "end")

path_select_components(path, -1, "end")

path_select_components(path, 6)
```

`path_tidy` *Tidy paths*

Description

Untidy paths are all different, tidy paths are all the same. Tidy paths always use `/` to delimit directories, never have multiple `/` or trailing `/` and have colourised output based on the file type.

Usage

```
path_tidy(path)
```

Arguments

`path`	A character vector of one or more paths.

Value

An `fs_path` object, which is a character vector that also has class `fs_path`

Index

as_fs_bytes *(fs_bytes)*, 16
as_fs_path *(fs_path)*, 16
as_fs_perms *(fs_perms)*, 17

base::basename(), *24*
base::dirname(), *24*
base::path.expand(), *23*

copy, 3
create, 4

delete, 5
dir.create(), *4*
dir_copy *(copy)*, 3
dir_create *(create)*, 4
dir_delete *(delete)*, 5
dir_exists *(file_access)*, 9
dir_exists(), *20*
dir_info *(dir_ls)*, 6
dir_info(), *12*
dir_ls, 6, *8*
dir_map *(dir_ls)*, 6
dir_tree, 8
dir_walk *(dir_ls)*, 6

file.create(), *4*
file.info(), *11*
file.remove, *5*
file.rename, *13*
file_access, 9
file_chmod, 10
file_chown, 11
file_copy *(copy)*, 3
file_create *(create)*, 4
file_delete *(delete)*, 5
file_exists *(file_access)*, 9
file_exists(), *20*
file_info, 11
file_move, 13
file_show, 13
file_size *(file_info)*, 11
file_temp, 14
file_temp_pop *(file_temp)*, 14
file_temp_push *(file_temp)*, 14
file_touch, 15
fs_bytes, 16
fs_bytes(), *12*
fs_path, 16, *24*
fs_path(), *12*
fs_perms, 17
fs_perms(), *12*

grep, *8*, *25*
grep(), *7*, *9*, *25*
group_ids *(id)*, 18

id, 18
is_absolute_path, 19
is_dir *(is_file)*, 20
is_dir_empty, 19
is_file, 20
is_file(), *9*
is_file_empty *(is_file)*, 20
is_link *(is_file)*, 20

link_copy *(copy)*, 3
link_create *(create)*, 4
link_delete *(delete)*, 5
link_exists *(file_access)*, 9
link_exists(), *20*
link_path, 21

octmode, *17*

path, 22
path(), *4*, *23*, *26*, *28*
path_abs *(path_math)*, 25
path_common *(path_math)*, 25
path_dir *(path_file)*, 24
path_expand, 22
path_expand(), *27*

path_expand_r *(path_expand)*, 22
path_ext *(path_file)*, 24
path_ext<- *(path_file)*, 24
path_ext_remove *(path_file)*, 24
path_ext_set *(path_file)*, 24
path_file, 24
path_filter, 25
path_has_parent *(path_math)*, 25
path_home *(path_expand)*, 22
path_home(), *22*
path_home_r *(path_expand)*, 22
path_join *(path_math)*, 25
path_math, 25
path_norm *(path_math)*, 25
path_package, 27
path_package(), *22*
path_real *(path_math)*, 25
path_rel *(path_math)*, 25
path_sanitize, 28
path_select_components, 29
path_split *(path_math)*, 25
path_split(), *26*
path_temp *(file_temp)*, 14
path_tidy, 30
path_wd *(path)*, 22
POSIXct, *12*, *15*

system.file(), *27*

unlink, *5*
user_ids *(id)*, 18