

NAME

`find` — find files

SYNOPSIS

`find` *pathname* *expression*

DESCRIPTION

Find recursively descends the directory hierarchy from *pathname* seeking files that match a boolean *expression* written in the primaries given below. In the descriptions, the argument *n* is used as a decimal integer where $+n$ means more than *n*, $-n$ means less than *n* and *n* means exactly *n*.

- `-ignore pathname` True unless file is hierarchically below the given *pathname*. For maximum efficiency all *ignore* primaries should appear first in the boolean expression. In this case the files below the *pathname* will not be accessed.
- `-name filename` True if the *filename* argument matches the current file name. Normal *Shell* argument syntax may be used if escaped (watch out for [, ?, and *).
- `-perm onum` True if the file permission flags exactly match the octal number *onum* (see *chmod*(1)). If *onum* is prefixed by a minus sign, more flag bits (017777, see *stat*(2)) become significant and the flags will be compared: $(\text{flags}\&\text{onum}) == \text{onum}$.
- `-i n` True if the file has inode *n*.
- `-type c` True if the file is *c*, where *c* is *b*, *c*, *d*, or *f* for block special file, character special file, directory or ;lain file.
- `-links n` True if the file has *n* links.
- `-user uname` True if the file belongs to the user *uname*. An integer may be supplied instead of *uname*.
- `-group gname` True if the file belongs to the group *gname*. An integer may be supplied instead of *gname*.
- `-size n` True if the file is *n* blocks long (512 bytes per block).
- `-atime n` True if the file has been accessed in *n* days.
- `-mtime n` True if the file has been modified in *n* days.
- `-exec command` True if the executed command returns exit status zero (most commands do). The end of the command is punctuated by an escaped semicolon. A command argument '{}' is replaced by the current pathname.
- `-ok command` Like `-exec` except that the generated command line is printed with a question mark first, and is executed only if the user responds *y*.
- `-print` Always true; causes the current pathname to be printed.

The primaries may be combined with the operators (ordered by precedence):

- ! prefix *not*
- a infix *and* second operand evaluated only if first is true
- o infix *or*, second operand evaluated only if first is false
- (*expression*) parentheses for grouping. (Must be escaped.)

To remove files named 'a.out' and '*.o' not accessed for a week:

```
find / '(' -name a.out -o -name '*.o' ')' -a -atime +7 -a -exec rm {} ';' ;'
```

FILES

/etc/group
/etc/passwd

SEE ALSO

sh(1), fs(5)

BUGS

There is no way to check device type.