NAME

umask – get or set the file mode creation mask

SYNOPSIS

/usr/bin/umask [**–S**] [*mask*]

sh

umask [*ooo*]

csh

umask [*ooo*]

ksh

umask [**–S**] [*mask*]

DESCRIPTION

/usr/bin/umask

The **umask** utility sets the file mode creation mask of the current shell execution environment to the value specified by the *mask* operand. This mask affects the initial value of the file permission bits of subsequently created files. If **umask** is called in a subshell or separate utility execution environment, such as one of the following:

(umask 002)
nohup umask ...
find . -exec umask ...

it does not affect the file mode creation mask of the caller's environment.

If the *mask* operand is not specified, the **umask** utility writes the value of the invoking process's file mode creation mask to standard output.

sh

The user file-creation mode mask is set to *ooo*. The three octal digits refer to read/write/execute permissions for owner, group, and other, respectively (see **chmod**(1), **chmod**(2), and **umask**(2)). The value of each specified digit is subtracted from the corresponding ''digit'' specified by the system for the creation of a file (see **creat**(2)). For example, **umask 022** removes write permission for group and other (files normally created with mode **777** become mode **755**; files created with mode **666** become mode **644**).

If *ooo* is omitted, the current value of the mask is printed.

umask is recognized and executed by the shell.

umask can be included in the user's **.profile** (see **profile**(4)) and invoked at login to automatically set the user's permissions on files or directories created.

csh

See the description above for the Bourne shell (**sh**) **umask** built-in.

ksh

The user file-creation mask is set to *mask*. *mask* can either be an octal number or a symbolic value as described in **chmod**(1). If a symbolic value is given, the new **umask** value is the complement of the result of applying *mask* to the complement of the previous umask value. If *mask* is omitted, the current value of the mask is printed.

OPTIONS

The following option is supported:

–S Produce symbolic output.

The default output style is unspecified, but will be recognised on a subsequent invocation of **umask** on the same system as a *mask* operand to restore the previous file mode creation mask.

OPERANDS

The following operand is supported:

mask A string specifying the new file mode creation mask. The string is treated in the same way as the *mode* operand described in the **chmod**(1) manual page.

For a *symbolic_mode* value, the new value of the file mode creation mask is the logical complement of the file permission bits portion of the file mode specified by the *symbolic_mode* string.

In a *symbolic_mode* value, the permissions *op* characters **+** and – are interpreted relative to the current file mode creation mask; **+** causes the of for the indicated permissions to be cleared in the mask; – causes the bits of the indicated permissions to be set in the mask.

The interpretation of *mode* values that specify file mode bits other than the file permission bits is unspecified.

The file mode creation mask is set to the resulting numeric value.

The default output of a prior invocation of **umask** on the same system with no operand will also be recognized as a *mask* operand. The use of an operand obtained in this way is not obsolescent, even if it is an octal number.

OUTPUT

When the *mask* operand is not specified, the **umask** utility will write a message to standard output that can later be used as a **umask** *mask* operand.

If –**S** is specified, the message will be in the following format:

"u=%s,g=%s,o=%s\n", <*owner permissions*>, <*group permissions*>, <*other permissions*>

where the three values will be combinations of letters from the set {r**,** **w**, **x**}; the presence of a letter will indicate that the corresponding bit is clear in the file mode creation mask.

If a *mask* operand is specified, there will be no output written to standard output.

EXAMPLES

Either of the commands:

umask a=rx,ug+w
umask 002

sets the mode mask so that subsequently created files have their **S_IWOTH** bit cleared.

After setting the mode mask with either of the above commands, the **umask** command can be used to write the current value of the mode mask:

$ umask
0002

(The output format is unspecified, but historical implementations use the obsolescent octal integer mode format.)

$ umask -S **1**
u=rwx,g=rwx,o=rx

Either of these outputs can be used as the mask operand to a subsequent invocation of the **umask** utility.

Assuming the mode mask is set as above, the command:
umask g-w
sets the mode mask so that subsequently created files have their **S_IWGRP**, and **S_IWOTH** bits cleared.

The command:
umask -- -w
sets the mode mask so that subsequently created files have all their write bits cleared. Note that *mask* operands **r , w , x** or anything beginning with a hyphen, must be preceded by — to keep it from being interpreted as an option.

ENVIRONMENT

See **environ**(5) for descriptions of the following environment variables that affect the execution of **umask**: **LC_CTYPE**, **LC_MESSAGES**, and **NLSPATH**.

EXIT STATUS

The following exit values are returned:

0 The file mode creation mask was successfully changed, or no *mask*

>0 An error occurred.

SEE ALSO

chmod(1), **csh**(1), **ksh**(1), **sh**(1), **chmod**(2), **creat**(2), **profile**(4), **environ**(5)