NAME

time – time a simple command

SYNOPSIS

time [–p] *utility* **[***argument. . .***]**

AVAILABILITY

SUNWcsu

DESCRIPTION

The **time** utility invokes *utility* operand with *argument*, and writes a message to standard error that lists timing statistics for *utility*. The message includes the following information:

- The elapsed (real) time between invocation of *utility* and its termination.
- The User CPU time, equivalent to the sum of the *tms_utime* and *tms_cutime* fields returned by the **times**(2) function for the process in which *utility* is executed.
- The System CPU time, equivalent to the sum of the *tms_stime* and *tms_cstime* fields returned by the **times( )** function for the process in which *utility* is executed.

When **time** is used as part of a pipeline, the times reported are unspecified, except when it is the sole command within a grouping command in that pipeline. For example, the commands on the left are unspecified; those on the right report on utilities **a** and **c**, respectively.

```
time a | b | c          { time a } | b | c
a | b | time c          a | b | (time c)
```

OPTIONS

The following option is supported:

–p Write the timing output to standard error in the following format:
real %f\nuser %f\nsys %f\n <*real seconds***>, <***user seconds***>, <***system seconds***>**

OPERANDS

The following operands are supported:

utility The name of the utility that is to be invoked.

argument Any string to be supplied as an argument when invoking *utility*.

USAGE

The **time** utility returns exit status **127** if an error occurs so that applications can distinguish “failure to find a utility” from “invoked utility exited with an error indication.” The value **127** was chosen because it is not commonly used for other meanings; most utilities use small values for “normal error conditions” and the values above **128** can be confused with termination due to receipt of a signal. The value **126** was chosen in a similar manner to indicate that the utility could be found, but not invoked.

EXAMPLES

It is frequently desirable to apply **time** to pipelines or lists of commands. This can be done by placing pipelines and command lists in a single file; this file can then be invoked as a utility, and the **time** applies to everything in the file.

Alternatively, the following command can be used to apply **time** to a complex command:

```
time sh -c 'complex-command-line'
```

The following two examples show the differences between the **csh** version of **time** and the version in **/usr/bin/time**. These examples assume that **csh** is the shell in use.

```
example% time find / -name csh.1 -print
/usr/share/man/man1/csh.1
95.0u 692.0s 1:17:52 16% 0+0k 0+0io 0pf+0w
```

See **csh**(1) for an explanation of the format of **time** output.

```
example% /usr/bin/time find / -name csh.1 -print
/usr/share/man/man1/csh.1
real  1:23:31.5
user    1:33.2
sys    11:28.2
```

ENVIRONMENT

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

EXIT STATUS

If *utility* is invoked, the exit status of **time** will be the exit status of *utility*; otherwise, the **time** utility will exit with one of the following values:

1–125 An error occurred in the **time** utility.

126 *utility* was found but could not be invoked.

127 *utility* could not be found.

SEE ALSO

csh(1), **shell_builtins**(1), **timex**(1), **times**(2), **environ**(5)

NOTES

When the time command is run on a multiprocessor machine, the total of the values printed for **user** and **sys** can exceed **real**. This is because on a multiprocessor machine it is possible to divide the task between the various processors.

When the command being timed is interrupted, the timing values displayed may not always be accurate.

BUGS

Elapsed time is accurate to the second, while the CPU times are measured to the 100th second. Thus the sum of the CPU times can be up to a second larger than the elapsed time.