NAME

time - time command execution

SYNOPSIS

time [**-al**] [**-h** | **-p**] [**-o** *file*] *utility* [*argument ...*]

DESCRIPTION

The **time** utility executes and times the specified *utility*. After the *utility* finishes, **time** writes to the standard error stream, (in seconds): the total time elapsed, the time used to execute the *utility* process and the time consumed by system overhead.

The following options are available:

-a   If the **-o** flag is used, append to the specified file rather than overwriting it. Otherwise, this option has no effect.

-h   Print times in a human friendly format. Times are printed in minutes, hours, etc. as appropriate.

-l   The contents of the *rusage* structure are printed as well.

-o *file* Write the output to *file* instead of stderr. If *file* exists and the **-a** flag is not specified, the file will be overwritten.

-p   Makes **time** output POSIX.2 compliant (each time is printed on its own line).

Some shells may provide a builtin **time** command which is similar or identical to this utility. Consult the builtin(1) manual page.

If **time** receives a SIGINFO (see the status argument for stty(1)) signal, the current time the given command is running will be written to the standard output.

ENVIRONMENT

The PATH environment variable is used to locate the requested *utility* if the name contains no '/' characters.

EXIT STATUS

If *utility* could be timed successfully, its exit status is returned. If *utility* terminated abnormally, a warning message is output to stderr. If the *utility* was found but could not be run, the exit status is 126. If no *utility* could be found at all, the exit status is 127. If **time** encounters any other error, the exit status is between 1 and 125 included.

EXAMPLES

Time the execution of ls(1) on an empty directory:

```
$ /usr/bin/time ls
      0.00 real       0.00 user       0.00 sys
```

Time the execution of the cp(1) command and store the result in the *times.txt* file. Then execute the command again to make a new copy and add the result to the same file:

```
$ /usr/bin/time -o times.txt cp FreeBSD-12.1-RELEASE-amd64-bootonly.iso copy1.iso
$ /usr/bin/time -a -o times.txt cp FreeBSD-12.1-RELEASE-amd64-bootonly.iso copy2.iso
```

The *times.txt* file will contain the times of both commands:

```
$ cat times.txt
      0.68 real       0.00 user       0.22 sys
      0.67 real       0.00 user       0.21 sys
```

Time the sleep(1) command and show the results in a human friendly format. Show the contents of the *rusage* structure too:

```
$ /usr/bin/time -l -h -p sleep 5
real 5.01
user 0.00
sys 0.00
          0  maximum resident set size
          0  average shared memory size
          0  average unshared data size
          0  average unshared stack size
         80  page reclaims
          0  page faults
          0  swaps
          1  block input operations
          0  block output operations
          0  messages sent
          0  messages received
          0  signals received
          3  voluntary context switches
          0  involuntary context switches
```

SEE ALSO
builtin(1), csh(1), getrusage(2), wait(2)

STANDARDS
The **time** utility is expected to conform to ISO/IEC 9945-2:1993 (''POSIX'').

HISTORY
A **time** utility appeared in Version 3 AT&T UNIX.