

PIPE(II)

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NAME

pipe — create an interprocess channel

SYNOPSIS

(pipe = 42.)

sys pipe

(read file descriptor in r0)

(write file descriptor in r1)

pipe(fildes)

int fildes[2];

DESCRIPTION

The *pipe* system call creates an I/O mechanism called a pipe. The file descriptors returned can be used in read and write operations. When the pipe is written using the descriptor returned in r1 (resp. fildes[1]), up to 4096 bytes of data are buffered before the writing process is suspended. A read using the descriptor returned in r0 (resp. fildes[0]) will pick up the data.

It is assumed that after the pipe has been set up, two (or more) cooperating processes (created by subsequent *fork* calls) will pass data through the pipe with *read* and *write* calls.

The Shell has a syntax to set up a linear array of processes connected by pipes.

Read calls on an empty pipe (no buffered data) with only one end (all write file descriptors closed) return an end-of-file. Write calls under similar conditions generate a fatal signal (signal (II)); if the signal is ignored, an error is returned on the write.

SEE ALSO

sh (I), read (II), write (II), fork (II)

DIAGNOSTICS

The error bit (c-bit) is set if too many files are already open. From C, a -1 returned value indicates an error. A signal is generated if a write on a pipe with only one end is attempted.

BUGS