NAME

ioctl – control device

SYNOPSIS

#include <unistd.h>

int ioctl(int *fildes***, int** *request***, /*** *arg* ***/ . . .);**

DESCRIPTION

ioctl( ) performs a variety of control functions on devices and STREAMS. For non-STREAMS files, the functions performed by this call are device-specific control functions. *request* and an optional third argument with varying type are passed to the file designated by *fildes* and are interpreted by the device driver.

For STREAMS files, specific functions are performed by the **ioctl( )** call as described in **streamio**(7I).

fildes is an open file descriptor that refers to a device. *request* selects the control function to be performed and depends on the device being addressed. *arg* represents a third argument that has additional information that is needed by this specific device to perform the requested function. The data type of *arg* depends upon the particular control request, but it is either an **int** or a pointer to a device-specific data structure.

In addition to device-specific and STREAMS functions, generic functions are provided by more than one device driver, for example, the general terminal interface (see **termio**(7I)).

RETURN VALUES

Upon successful completion, the value returned depends upon the device control function, but must be a non-negative integer. Otherwise, a value of –1 is returned and **errno** is set to indicate the error.

ERRORS

ioctl( ) fails for any type of file if one or more of the following are true:

EBADF *fildes* is not a valid open file descriptor.

EINTR A signal was caught during the **ioctl( )** function.

ENOTTY *fildes* is not associated with a device driver that accepts control functions.

ioctl( ) also fails if the device driver detects an error. In this case, the error is passed through **ioctl( )** without change to the caller. A particular driver might not have all of the following error cases. Under the following conditions, requests to device drivers may fail and set **errno** to:

EFAULT
request requires a data transfer to or from a buffer pointed to by *arg*, but *arg* points to an illegal address.

EINVAL
request or *arg* is not valid for this device.

EIO Some physical I/O error has occurred.

ENOLINK
fildes is on a remote machine and the link to that machine is no longer active.

ENXIO The *request* and *arg* are valid for this device driver, but the service requested can not be performed on this particular subdevice.

STREAMS errors are described in **streamio**(7I).

SEE ALSO

streamio(7I), **termio**(7I)