

NAME

od - octal, decimal, hex, ASCII dump

SYNOPSIS

od [-**aBbcDdeFfHhIiLlOosvXx**] [-**A** *base*] [-**j** *skip*] [-**N** *length*] [-**t** *type*] [[+]offset[.][**Bb**]] [*file ...*]

DESCRIPTION

The **od** utility is a filter which displays the specified files, or standard input if no files are specified, in a user specified format.

The options are as follows:

-A *base*

Specify the input address base. The argument *base* may be one of **d**, **o**, **x** or **n**, which specify decimal, octal, hexadecimal addresses or no address, respectively.

-a Output named characters. Equivalent to **-t a**.

-B, -o Output octal shorts. Equivalent to **-t o2**.

-b Output octal bytes. Equivalent to **-t o1**.

-c Output C-style escaped characters. Equivalent to **-t c**.

-D Output unsigned decimal ints. Equivalent to **-t u4**.

-d Output unsigned decimal shorts. Equivalent to **-t u2**.

-e, -F Output double-precision floating point numbers. Equivalent to **-t fD**.

-f Output single-precision floating point numbers. Equivalent to **-t fF**.

-H, -X Output hexadecimal ints. Equivalent to **-t x4**.

-h, -x Output hexadecimal shorts. Equivalent to **-t x2**.

-I, -L, -l

Output signed decimal longs. Equivalent to **-t dL**.

-i Output signed decimal ints. Equivalent to **-t dI**.

-j *skip* Skip *skip* bytes of the combined input before dumping. The number may be followed by one of **b**, **k** or **m** which specify the units of the number as blocks (512 bytes), kilobytes and megabytes, respectively.

-N *length*

Dump at most *length* bytes of input.

-O Output octal ints. Equivalent to **-t o4**.

-s Output signed decimal shorts. Equivalent to **-t d2**.

-t *type* Specify the output format. The *type* argument is a string containing one or more of the following kinds of type specifiers:

a Named characters (ASCII). Control characters are displayed using the following names:

```

000 NUL 001 SOH 002 STX 003 ETX 004 EOT 005 ENQ
006 ACK
          007 BEL 008 BS  009 HT  00A NL  00B VT
00C FF  00D CR  00E SO  00F SI  010 DLE 011 DC1
012 DC2 013 DC3 014 DC4 015 NAK
                          016 SYN
                          017 ETB
018 CAN
          019 EM  01A SUB
                          01B ESC
                          01C FS  01D GS
01E RS  01F US  020 SP  07F DEL

```

c Characters in the default character set. Non-printing characters are represented as 3-digit octal character codes, except the following characters, which are represented as C escapes:

```

NUL          \0
alert        \a
backspace    \b
newline      \n
carriage-return \r
tab          \t

```

vertical tab \v

Multi-byte characters are displayed in the area corresponding to the first byte of the character. The remaining bytes are shown as ‘***’.

[d|o|u|x][C|S|I|L|n]

Signed decimal (**d**), octal (**o**), unsigned decimal (**u**) or hexadecimal (**x**). Followed by an optional size specifier, which may be either **C** (*char*), **S** (*short*), **I** (*int*), **L** (*long*), or a byte count as a decimal integer.

f[F|D|L|n]

Floating-point number. Followed by an optional size specifier, which may be either **F** (*float*), **D** (*double*) or **L** (*long double*).

-v Write all input data, instead of replacing lines of duplicate values with a ‘*’.

Multiple options that specify output format may be used; the output will contain one line for each format.

If no output format is specified, **-t oS** is assumed.

ENVIRONMENT

The LANG, LC_ALL and LC_CTYPE environment variables affect the execution of **od** as described in environ(7).

EXIT STATUS

The **od** utility exits 0 on success, and >0 if an error occurs.

EXAMPLES

Dump stdin and show the output using named characters and C-style escaped characters:

```
$ echo "FreeBSD: The power to serve" | od -a -c
0000000  F r e e B S D : s p T h e s p p o w
          F r e e B S D :   T h e   p o w
0000020  e r s p t o s p s e r v e n l
          e r   t o   s e r v e \n
0000034
```

Dump stdin skipping the first 13 bytes using named characters and dumping no more than 5 bytes:

```
$ echo "FreeBSD: The power to serve" | od -An -a -j 13 -N 5
  p o w e r
```

COMPATIBILITY

The traditional `-s` option to extract string constants is not supported; consider using `strings(1)` instead.

SEE ALSO

`hexdump(1)`, `strings(1)`

STANDARDS

The `od` utility conforms to IEEE Std 1003.1-2001 ("POSIX.1").

HISTORY

An `od` command appeared in Version 1 AT&T UNIX.