

NAME

nm - display symbolic information in object files

SYNOPSIS

nm [**--debug-syms**] [**--defined-only**] [**--demangle**[=*style*]] [**--dynamic**] [**--extern-only**] [**--help**]
[**--line-numbers**] [**--no-demangle**] [**--no-sort**] [**--numeric-sort**] [**--print-armap**] [**--print-file-name**]
[**--print-size**] [**--radix**=*format*] [**--reverse-sort**] [**--size-sort**] [**--undefined-only**] [**--version**] [**-A**] [**-B**]
[**-C** [*style*]] [**-D**] [**-P**] [**-V**] [**-a**] [**-e**] [**-g**] [**-h**] [**-l**] [**-n**] [**-o**] [**-p**] [**-r**] [**-S**] [**-s**] [**-t** *format*] [**-u**] [**-x**] *file* ...

DESCRIPTION

The **nm** utility displays symbolic information in the object files, executables, and object library files named by its arguments. Lack of symbolic information in an otherwise valid input file, is not considered to be an error. If no files are specified on the command line, **nm** will attempt to read *a.out*.

The **nm** utility recognizes the following options:

--debug-syms Display all symbols, including debugger-only symbols.

--defined-only Display only defined symbols.

--demangle[=*style*]

Decode (demangle) low-level symbol names into human-readable names. Supported values for argument *style* are 'auto', 'gnu-v2', 'gnu-v3' and 'arm.' If argument *style* is not specified, it is taken to be 'auto'.

--dynamic Only display dynamic symbols. This option is only meaningful for shared libraries.

--extern-only Only display information about global (external) symbols.

--help Display a help message and exit.

--format=*format*

Display output in the format specified by argument *format*. Supported values for the format argument are 'bsd', 'sysv', and 'posix'. The default output format is 'bsd'.

--line-numbers

Display the filename and line number associated a symbol using any debugging information present in the input file. For defined symbols, look up the line number associated with the address of the symbol. For undefined symbols, look up the line number associated with a relocation entry that refers to the symbol. If line number

information can be determined, it is displayed after other symbol information.

--no-demangle

Do not demangle symbol names (default).

--no-sort

Do not sort symbols.

--numeric-sort Sort symbols numerically by address instead of alphabetically by name.

--print-armac For ar(1) archives, include the index of the archive's members.

--print-file-name

Write the full pathname or library name of an object on each line, before the rest of the information for a symbol. If this option is not specified, **nm** will only identify an input file once, before its symbols are listed.

--print-size Print the size of each symbol instead of its value.

--radix=*radix* Print numeric values using the specified radix. Supported values for argument *radix* are 'd' for decimal, 'o' for octal, and 'x' for hexadecimal.

--reverse-sort Reverse the order of the sort.

--size-sort Sort symbols by size instead of alphabetically by name.

--undefined-only

Display only undefined symbols.

--version Display the version identifier for **nm** and exit.

-A Equivalent to specifying option **--print-file-name**.

-B Equivalent to specifying option **--format=*bsd***.

-C [*style*] Equivalent to specifying option **--demangle[=*style*]**.

-D Equivalent to specifying option **--dynamic**.

-F *format* Equivalent to specifying option **--format=*format***.

- P** Equivalent to specifying option **--format=posix**.
- S** Equivalent to specifying option **--print-size**.
- V** Equivalent to specifying option **--version**.
- a** Equivalent to specifying option **--debug-syms**.
- e** Only display information for global and static symbols.
- f** Produce full output (default).
- g** Equivalent to specifying option **--extern-only**.
- h** Equivalent to specifying option **--help**.
- l** Equivalent to specifying option **--line-numbers**.
- n** Equivalent to specifying option **--numeric-sort**.
- o** If POSIX output was specified using the **-F posix** or **-P** options, this option is equivalent to specifying **--radix='o'**. If POSIX output was not specified, this option acts as a synonym for the **--print-file-name** option.
- p** Equivalent to specifying option **--no-sort**.
- v** Equivalent to option **-n**.
- r** Equivalent to specifying option **--reverse-sort**
- s** Equivalent to specifying option **--print-armac**.
- t radix** Equivalent to specifying option **--radix=radix**.
- u** Equivalent to specifying option **--undefined-only**.
- x** Write numeric values in hexadecimal (equivalent to **-t x**).

OUTPUT FORMAT

The **nm** utility can present its information in a number of formats, numeric radices and sort orders. By

default **nm** uses BSD style output, a hexadecimal radix, without output sorted alphabetically by name and without demangling of names.

For each symbol listed, **nm** presents the following information:

- The library or object name, if options **-A** or **--print-file-name** were specified.
- The symbol name.
- The type of the symbol denoted by a single character as below:
 - A A global, absolute symbol.
 - B A global "bss" (uninitialized data) symbol.
 - C A "common" symbol, representing uninitialized data.
 - D A global symbol naming initialized data.
 - N A debugger symbol.
 - R A read-only data symbol.
 - T A global text symbol.
 - U An undefined symbol.
 - V A weak object.
 - W A weak reference.
 - a A local absolute symbol.
 - b A local "bss" (uninitialized data) symbol.
 - d A local data symbol.
 - r A local read-only data symbol.
 - t A local text symbol.
 - v A weak object that is undefined.
 - w A weak symbol that is undefined.
 - ? None of the above.
- The value of the symbol.
- The size of the symbol if applicable.
- Line number information, if available and if options **-l** or **--line-numbers** were specified.

EXIT STATUS

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

SEE ALSO

ar(1), objdump(1), ranlib(1), elf(3)

AUTHORS

The **nm** utility and this manual page were written by Hyogeol Lee <hyogeollee@gmail.com>.