

NAME

clisp - ANSI³ Common Lisp compiler i nterpreter and debugger

SYNOPSIS

```
clisp -h --help --ersion --license -help-image -B lisp-lib-dir -b -K linking-set
-M mem-file -m memory-size -L language -N locale-dir -E domain encoding -
--uiet --silent - --erbose -on-error action -repl - -I
-disable-readline -ansi -traditional -modern -p package -C -norc
-lp directory -i init-file -c -l lisp-file -o output-file -x expressions
lisp-file argument
```

DESCRIPTION

Ino kes the Common Lisp interpreter and compiler

Interacti e Mode

When called ithout batch arguments e xecutes the read-ea l-print loop² in hich expressions are in turn

READ³ from the standard input

EVAL uated by the lisp interpreter

and their results are PRINT ed to the standard output

Non-Interacti e (Batch) Mode

Ino ked ith -c c ompiles the specified lisp files to a platform-independent bytecode hich can be executed more efficiently

Ino ked ith -x e xecutes the specified lisp expressions

Ino ked ith lisp-file r uns the specified lisp file

Batch mode actia tes the - option

OPTIONS

-h

--help

Displays a help message on ho to i no ke CLISP

--ersion

Displays the CLISP ersion number as gie n by the function LISP-IMPLEMENT AT ION-VERSION t he alue of the ariable *FEATURES* as ell some other information

--license

Displays a summary of the licensing information the GNU GPL

-help-image

Displays information about the memory image being ino ked: hether is it suitable for scripting as ell as the :DOCUMENT AT ION supplied to EXT:SAVEINITMEM

-B lisp-lib-dir

Specifies the installation directory This is the directory containing the linking sets and other data files This option is normally not necessary b ecause the installation directory is already built-in into the clisp executable Directory lisp-lib-dir can be changed dynamically using the SYMBOL-MACRO CUSTOM:*LIB-DIRECTORY*

-b

Print the installation directory and exit immediately The namestring of CUSTOM:*LIB-DIRECTORY* is printed ithout an y uotes This is mostly useful in module Makefiles see eg modulessyscallsMakefilein (file in the CLISP sources)

-K linking-set

Specifies the linking set to be run This is a directory (relative to the lisp-lib-dir) containing at least a main executable (runtime) and an initial memory image Possible values are

base

the core [CLISP](#)

full

core plus all the modules with which this installation was built see Section 322 External Modules

The default is base

-M mem-file

Specifies the initial memory image This must be a memory dump produced by the EXT:SAVEINITMEM function by this clisp runtime It may have been compressed using [GNU gzip](#)

-m memory-size

Sets the amount of memory [CLISP](#) tries to grab on startup The amount may be given as

n

nB

measured in bytes

n

nW

measured in machine words (n on 32-bit platforms n on 64-bit platforms)

nK

nKB

measured in kilobytes

nKW

measured in kilowords

nM

nMB

measured in megabytes

nMW

measured in megawords

The default is 3 megabytes The argument is constrained to be at least 1 KB

This version of [CLISP](#) eventually uses the entire memory-size

-L language

Specifies the language [CLISP](#) uses to communicate with the user This may be one of english german french spanish dutch russian danish Other languages may be specified through the [environment variable](#)² LANG provided the corresponding message catalog is installed The language may be changed dynamically using the [SYMBOL-MACRO CUSTOM:*CURRENT-LANGUAGE*](#)

-N locale-dir

Specifies the base directory of locale files [CLISP](#) will search its message catalogs in locale-dir languageLCMESSA GESclispmo This directory may be changed dynamically using the [SYMBOL-MACRO CUSTOM:*CURRENT-LANGUAGE*](#)

-Edomain encoding

Specifies the encoding used for the given domain overriding the default which depends on the [environment variable](#)² s LCALL LCCTYPE LANG domain can be

file

affecting CUSTOM:*DEFAULT-FILE-ENCODING*

pathname

affecting CUSTOM:*PATHNAME-ENCODING*

terminal

affecting CUSTOM:*TERMINAL-ENCODING*

foreign

affecting CUSTOM:*FOREIGN-ENCODING*

misc

affecting CUSTOM:*MISC-ENCODING*

blank

affecting all of the above

Warning

Note that the values of these [SYMBOL-MACRO](#)s that have been saved in a memory image are ignored: these [SYMBOL-MACRO](#)s are reset based on the OS environment after the memory image is loaded. You have to use the RC file CUSTOM:*INIT-HOOKS* or init function to set them on startup but it is best to set the aforementioned [environment variable](#)²s appropriately for consistency with other programs. See Section 3 Customizing CLISP Process Initialization and Termination.

—

--quiet

--silent

—

--verbose

Change verbosity level: by default [CLISP](#) displays a banner at startup and a good-bye message when quitting and initializes [*LOAD-VERBOSE*](#)³ and [*COMPILE-VERBOSE*](#) to [T](#) and [*LOAD-PRINT*](#)³ and [*COMPILE-PRINT*](#) to [NIL](#) as per ANSI CL standard. The first — removes the banner and the good-bye message; the second sets variables [*LOAD-VERBOSE*](#)³, [*COMPILE-VERBOSE*](#) and CUSTOM:*SAVEINITMEM-VERBOSE* to [NIL](#). The first — sets variables CUSTOM:*REPORT-ERROR-PRINT-BACKTRACE*, [*LOAD-PRINT*](#)³ and [*COMPILE-PRINT*](#) to [T](#); the second sets CUSTOM:*LOAD-ECHO* to [T](#). These settings affect the output produced by [-i](#) and [-c](#) options. Note that these settings persist into the [read-eval-print loop](#)². Repeated — and — cancel each other; — — — — is equivalent to —.

—on-error action

Establish global error handlers depending on action:

appease

[continuable](#) [ERROR](#)s are turned into [WARNING](#)s (with EXT:APPEASE-CERRORS); other [ERROR](#)s are handled in the default way.

debug

[ERROR](#)s [INVOKE-DEBUGGER](#)² (the normal [read-eval-print loop](#)² behavior) disables batch mode imposed by [-c](#) [-x](#) and [lisp-file](#).

abort

[continuable](#) [ERROR](#)s are appeased; other [ERROR](#)s are [ABORT](#)²ed with EXT:ABORT-ON-ERROR.

exit

[continuable](#) [ERROR](#)s are appeased; other [ERROR](#)s terminate [CLISP](#) with EXT:EXIT-ON-ERROR (the normal batch mode behavior).

See also EXT:SET-GLOBAL-HANDLER.

-repl

Start an interactive *read-eval-print loop*² after processing the *-c -x* and *lisp-file* options and on any *ERROR* *SIGNAL*²²ed during that processing

Disables batch mode

-

Wait for a keypress after program termination

-I

Interact better with *Emacs*²³ (useful when running *CLISP* under *Emacs*²³ using *SLIME*² *ILISP*² et al) With this option *CLISP* interacts in a way that *Emacs*²³ can deal with:

unnecessary prompts are not suppressed

The *GNU readline*² library treats *TAB* (see *TAB* key) as a normal self-inserting character (see :A)

-disable-readline

Do not use *GNU readline*² even when it has been linked against This can be used if one wants to paste non-*ASCII*² characters or when *GNU readline*² misbehaves due to installation (different versions on the build and install machines) or setup (bad *TERM* environment variable² a lue) issues

-ansi

Comply with the ANSI CL standard specification even when here *CLISP* has been traditionally different by setting the *SYMBOL-MACRO* *CUSTOM:*ANSI** to *T*

-traditional

Traditional: reverts the residual effects of *-ansi* in the saved memory image

-modern

Provides a modern set of symbols: at startup the **PACKAGE**² variable will be set to the *CS-COMMON-LISP-USER* package and the **PRINT-CASE**² will be set to *:DOWNCASE* This has the effect that symbol lookup is case-sensitive (except for keywords and old-style packages) and that keywords and uninterned symbols are printed with lower-case preference See Section Package Case-Sensitivity

-p package

At startup the value of the variable **PACKAGE**² will be set to the package named *package* The default is the value of **PACKAGE**² when the image was saved normally *COMMON-LISP-USER*³

-C

Compile when loading: at startup the value of the variable *CUSTOM:*LOAD-COMPILING** will be set to *T* Code being *LOAD*³ed will then be *COMPILE*³²d on the fly This results in slower loading but faster execution

-norc

Normally *CLISP* loads the user *run control (RC)*³³ file on startup (this happens after the *-C* option is processed) The file loaded is *clisprclisp* or *clisprcf* as in the home directory *USER-HOMEDIR-PATHNAME*³ whichever is newer This option *-norc* prevents loading of the *RC* file

-lp directory

Specifies directories to be added to *CUSTOM:*LOAD-PATHS** at startup This is done after loading the *RC* file (so that it does not override the command-line option) but before loading the init-files specified by the *-i* options (so that the init-files will be searched for in the specified directories) See *real -lp* options can be given all the specified directories will be added

-i init-file

Specifies initialization files to be *LOAD*³ed at startup These should be *lisp* files (source or

compiled) See `real-time` options can be given all the specified files will be loaded in order

`-c lisp-file`

Compiles the specified lisp-files to bytecode (*fas) The compiled files can then be [LOAD](#)³ ed instead of the sources to gain efficiency

Imposes batch mode

`-o outputfile`

Specifies the output file or directory for the compilation of the last specified lisp-file

`-l`

Produce a bytecode [DISASSEMBLE](#)³ listing (*lis) of the files being compiled Useful only for debugging See Section 2 Function `COMPILE-FILE` for details

`-x expressions`

Executes a series of arbitrary expressions instead of a [read-eval-print loop](#)² The values of the expressions will be output to [*STANDARD-OUTPUT*](#)³ Due to the argument processing done by the shell the expressions must be enclosed in double quotes and double quotes and backslashes must be escaped with backslashes

Imposes batch mode

`lisp-file argument`

Loads and executes a lisp-file as described in Section 3.2.2 Scripting with CLISP There will be no [read-eval-print loop](#)² Before lisp-file is loaded the variable `EXT:*ARGS*` will be bound to a list of strings representing the arguments The first line of lisp-file may start with `#!` thus permitting [CLISP](#) to be used as a script interpreter If lisp-file is `-` the [*STANDARD-INPUT*](#)³ is used instead of a file

This option is disabled if the memory image was created by `EXT:SAVEINITMEM` with [NIL](#) :`SCRIPT` argument In that case the [LIST](#)³ `EXT:*ARGS*` starts with lisp-file

This option must be the last one

No RC file will be executed

Imposes batch mode

As usual `--stop` option processing and places all remaining command line arguments into `EXT:*ARGS*`

LANGUAGE REFERENCE

The language implemented is [ANSI](#)³ [Common Lisp](#) The implementation mostly conforms to the ANSI Common Lisp standard see Section 3 Maximum ANSI CL compliance ANSI CL ANSI CL standard [ANSI](#) INCITS 22- (R)

Information Technology - Programming Language - Common Lisp
formerly ANSI X322- (R)

COMMAND LINE USER ENVIRONMENT

`help`

get context-sensitive on-line help see Chapter 2 Environment chap-2

`(APROPOS name)`

list the [SYMBOL](#)s matching name

`(DESCRIBE symbol)`

describe the symbol

`(exit)`

`(uit)`

`(bye)`

uit **CLISP**

EOF (ControlD on **UNIX**²)

leaves the current level of the **read-eval-print loop**² (see also Section Special Symbols sec---3)

arrows

for editing and viewing the input history using the **GNU readline**² library

TAB key

Context sensitive :

If you are in the function position (in the first symbol after an opening paren or in the first symbol after a) the completion is limited to the symbols that name functions

If you are in the filename position (inside a string after **P**) the completion is done across file names **GNU bash** -style

If you have not typed anything yet you will get a help message as if by the **help** command

If you have not started typing the next symbol (ie you are at a hitespace) the current function or macro is **DESCRIBE** d

Otherwise the symbol you are currently typing is completed

USING AND EXTENDING CLISP

Common Lisp is a programmable programming language [John Foderaro](#)

When **CLISP** is invoked the runtime loads the initial memory image and outputs the prompt at which one can start typing **DEFVAR** s **DEFUN** s and **DEFMACRO** s

To avoid having to re-enter the same definitions by hand in every session one can create a lisp file with all the variables functions macros etc (optionally) compile it with **COMPILE-FILE** and **LOAD**³ it either by hand or from the RC file or save a memory image to avoid the **LOAD**³ overhead

However sometimes one needs to use some functionality implemented in another language eg call a **C**² library function For that one uses the Foreign Function Interface and/or the External Modules facility Finally the truly adventurous ones might delve into Extending the Core

FILES

clisp

clispexe

startup driver (an executable or rarely a shell script) which remembers the location of the runtime and starts it with the appropriate arguments

lisprun

lispexe

main executable (runtime) – the part of **CLISP** implemented in **C**²

lispinitmem

initial memory image (the part of **CLISP** implemented in lisp)

configlisp

site-dependent configuration (should have been customized before **CLISP** was built) see Section 32 Customizing CLISP behavior

*lisp

lisp source

*fas

lisp code compiled by **CLISP**

*lib

lisp source library information generated by **COMPILE-FILE** see Section 23 Function REQUIRE

*c

C code compiled from lisp source by [CLISP](#) (see Section 323 The Foreign Function Call Facility)

For the [CLISP](#) source files see Chapter 3 The source files of CLISP

ENVIRONMENT

All [environment variable](#)²s that [CLISP](#) uses are read at most once

CLISPLANGU AGE

specifies the language [CLISP](#) uses to communicate ith the user The legal alues are identical to those of the -L option hich can be used to o er ride this [environment variable](#)²

LCCTYPE

specifies the locale hich determines the character set in use The alue can be of the form language or language country or language country charset here language is a to-letter ISO 3 language code (loer case) country is a to-letter ISO 3 country code (upper case) charset is an optional character set specification and needs normally not be gie n because the character set can be inferred from the language and country This [enir onment variable](#)² can be oe rriden ith the -Edomain encoding option

LANG

specifies the language [CLISP](#) uses to communicate ith the user unless it is already specified through the [enir onment variable](#)² CLISPLANGU AGE or the -L option It also specifies the locale determining the character set in use unless already specified through the [environment a riable](#)² LCCTYPE The alue may begin ith a to-letter ISO 3 language code for example en de fr

HOME

USER

used for determining the alue of the function [USER-HOMEDIR-P AT HNAME](#)³

SHELL

COMSPEC

is used to find the interactie c ommand interpreter called by EXT:SHELL

TERM

determines the screen size recognized by the pretty printer

ORGANIATION

for [SHORT-SITE-NAME](#)³ and [LONG-SITE-NAME](#)³ in configlisp

CLHSROOT

for CUSTOM:CLHS-ROOT in configlisp

IMPNOTES

for CUSTOM:IMPNOTES-ROOT in configlisp

EDITOR

for editor-name in configlisp

LOGICALHOST hostFROM

LOGICALHOST hostTO

LOGICALHOST host

for CUSTOM:*LOAD-LOGICAL-PATHNAME-TRANSLATIONS-DATABASE*

INPUT AND OUTUT

See Section 2 Initialization of Standard Streams

SEE ALSO

[CLISP impnotes](#)

[clisp-link\(\)](#)

[CMU CL](#) - cmucl()

[SBCL](#) – `sbcl()`
[Emacs](#)²³ – `emacs()`

BUGS

When you encounter a bug in [CLISP](#) or in its documentation (this manual page or [CLISP](#) impnotes) please report it to the [CLISP SourceForge bug tracker](#). Login either to your [SourceForge](#) account or to your [OpenID](#) account. Then click the Create Ticket link on the left-hand side.

Before submitting a bug report please take the following basic steps to make the report more useful:

Unless your bug is locale-specific please set your locale to `en_US`. You cannot assume that [CLISP](#) maintainers understand a language other than [English](#), even though historically few [CLISP](#) maintainers spoke English natively.

- 2 Do a clean build (remove your build directory and build [CLISP](#) with `configure --cbcx build` or at least do `make distclean` before `make`.)
- 3 If you are reporting a hard crash (segmentation fault bus error core dump etc) please do `configure --with-debug --cbcx build-gcc debug build-gcc gdb lisprun` then load the appropriate linking set by either `base` or full `gdb` command and report the backtrace (see also :A).

If you are using pre-built binaries and experience a hard crash the problem is likely to be in the incompatibilities between the platform on which the binary was built and yours. Please try compiling the sources and report the problem if it persists.

When submitting a bug report please specify the following information:

What is your platform (`uname -a` on a [UNIX](#)² system)

- 2 Please supply the full output (copy and paste) of all the error messages
- 3 Please provide detailed instructions on how to reproduce the problem

Where did you get the [CLISP](#) sources or binaries? When (Absolute dates eg 2-- are preferred over the relatives eg 2 days ago). If you are using [Git](#) please supply the output of `git rev-list --max-count HEAD`.)

If you are reporting a build failure:

What is your compiler version

- 2 What is your [GNU libc](#)² version (on [GNU Linux](#)³)
- 3 What is the version of each of the [DEPENDENCIES](#) (file in the [CLISP](#) sources)

How did you run `configure` (file in the [CLISP](#) sources)? We need the options you used as well as the values of the [environment variable](#)²s

```
CC
CFLAGS
CPPFLAGS
LDFLAGS
LDLIBRARYPATH
```

Please attach all build logs

If you have a working [CLISP](#) please supply the output of `clisp --version`

PROJECTS

Enhance the compiler so that it can inline local functions

Embed [CLISP](#) in [VIM](#)

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Others

See COPYRIGHT (file in the CLISP sources) for the list of other contributors and the license

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NOTES

Common Lisp

<https://common-lisp.net>

2 read-eval-print loop

[set-manbaseurl-for-relative-linkssec2--](#)

3 READ

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/fun/readcmreg-hitespace.html>

EVAL

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/fun/> a lhtml

PRINT

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/fun/ritecmprintcmprin.html>

CLISP

<http://clisp.org>

LISP-IMPLEMENTATION-VERSION

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/fun/lisp-impltion-ersion.html>

GNU

<https://gnu.org>

GPL

<https://gnu.org/copyleft/gpl.html>

SYMBOL-MACRO

[set-manbaseurl-for-relative-linksmacdefine-symbol-macro](#)

gzip

<http://gzip.org>

2 environment variable

[set-manbaseurl-for-relative-linksbasedefsvchap.html](#)

3 *LOAD-VERBOSE*

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/arstload-prad-erboses.html>

COMPILE-VERBOSE

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/arstcompilele-erboses.html>

T

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/con> a rhtml

NIL

<http://aimiteduprojects.iipdoc/CommonLISP/HyperSpec/Body/con> a nilhtml

continuable

[set-manbaseurl-for-relative-linkscshglo](#)

- ERROR**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodycontyperrorhtml>
WARNING
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodycontyparninghtml>
- 2 **INVOKE-DEBUGGER**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunin> [o ke-debuggerhtml](http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunin)
- 2 **ABORT**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunabortcmccmuse-aluehtml>
- 22 **SIGNAL**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunsignalhtml>
- 23 **Emacs**
<https://gnu.org/software/emacs/>
- 2 **SLIME**
<https://common-lisp.net/projects/slime/>
- 2 **ILISP**
<https://sourceforge.net/projects/ilisp/>
- 2 **readline**
<http://tis.case.edu/php/chet/readline/readline.html>
- 2 **ASCII**
<https://en.wikipedia.org/wiki/ASCII>
- 2 ***PACKAGE***
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyarstpackageshtml>
- 2 ***PRINT-CASE***
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyarstprint-caseshtml>
- 3 **COMMON-LISP-USER**
[set manbaseurlforrelati](http://manbaseurlforrelati) [e linkssec--2-2](http://manbaseurlforrelati)
- 3 **LOAD**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunloadhtml>
- 32 **COMPILE**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfuncompilehtml>
- 33 **run**
control (RC)
<http://fas.org/docs/artuchs3.html>
- 3 **USER-HOMEDIR-PATHNAME**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfunuser-homedir-pathnamehtml>
- 3 **DISASSEMBLE**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyfundisassemblehtml>
- 3 ***STANDARD-OUTPUT***
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodyarstdebug-iace-outputsthtml>
- 3 **LIST**
<http://aimiteduproectsiiipdocCommonLISPHyperSpecBodysysclalisthtml>
- 3 **ANSI**
<https://ansi.org/>
- 3 **The American National Standards Institute**

*ANSI**<https://ebstore.ansi.org>**SYMBOL**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/symbols.html>*2 *UNIX**<http://unix.org/online.html>*3 *Win32**<https://ineh.org>**[set manbaseurlforrelati](#) *e* *linkssec2---*2**P**[set manbaseurlforrelati](#) *e* *linkssec2---***bash**<https://gnu.org/software/bash>**ohn Foderaro**<http://franz.com/kf>**DEFVAR**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/macdef/parameter/cmddefar.html>**DEFUN**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/macdef/fun.html>**DEFMACRO**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/macdef/macro.html>**COMPILE-FILE**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/fun/compile-file.html>*2 *C**<http://c-facom>*3 *SHORT-SITE-NAME**<http://aimiteduproectsiiiipdoc/CommonLISPHyperSpecBody/fun/short-site-name.html>**CMU CL**<https://cons.org/cmucl>**SBCL**<http://sbcl.org>**SourceForge bug tracker**<https://sourcefor.net/projects/clisp/bugs>**SourceForge**<https://sourcefor.net>**OpenID**<http://openid.net>**English**<http://catb.org/esrf/ashacker-hot.html#skills>**gdb**<https://sourceforge.net/projects/gdb>**Git**<https://git-scm.com>*

- 2 *libc*
<https://gnu.org/software/libc>
- 3 *Linux*
<https://kernel.org>
- VIM*
<https://vim.org>