NAME

wnintro − introduction to WordNet library functions

DESCRIPTION

This section of the *WordNet Reference Manual* contains manual pages that describe the WordNet library functions and API.

Functions are organized into the following categories:

Category	Manual Page	Object File
Database Search	wnsearch (3WN)	search.o
Morphology	morph (3WN)	morph.o
Misc. Utility	wnutil (3WN)	wnutil.o
Binary Search	binsrch (3WN)	binsrch.o

The WordNet library is used by all of the searching interfaces provided with the various WordNet packages. Additional programs in the system, such as **grind**(1WN), also use functions in this library.

The WordNet library is provided in both source and binary forms (on some platforms) to allow users to build applications and tools to their own specifications that utilize the WordNet database. We do not provide programming support or assistance.

The code conforms to ANSI C standards. Functions are defined with function prototypes. If you do not have a compiler that accepts prototypes, you must edit the source code and remove the prototypes before compiling.

LIST OF WORDNET LIBRARY FUNCTIONS

Not all library functions are listed below. Missing are mainly functions that are called by documented ones, or ones that were written for specific applications or tools used during WordNet development. Data structures are defined in **wn.h**.

Database Searching Functions (search.o)

findtheinfo Primary search function for WordNet database. Returns formatted search results in text buffer. Used by WordNet interfaces to perform requested search.

findtheinfo_ds Primary search function for WordNet database. Returns search results in linked list data structure.

is_defined Set bit for each search type that is valid for the search word passed and return bit mask.

in_wn Set bit for each syntactic category that search word is in.

index_lookup Find word in index file and return parsed entry in data structure. Input word must be exact match of string in database. Called by **getindex( )**.

getindex Find word in index file, trying different techniques − replace hyphens with underscores, replace underscores with hyphens, strip hyphens and underscores, strip periods.

read_synset Read synset from data file at byte offset passed and return parsed entry in data structure. Calls **parse_synset( )**.

parse_synset Read synset at current byte offset in file and return parsed entry in data structure.

free_syns Free a synset linked list allocated by **findtheinfo_ds( )**.

free_synset	Free a synset structure.
free_index	Free an index structure.
traceptrs_ds	Recursive search algorithm to trace a pointer tree and return results in linked list.
do_trace	Do requested search on synset passed returning formatted output in buffer.

Morphology Functions (morph.o)

morphinit	Open exception list files.
re_morphinit	Close exception list files and reopen.
morphstr	Try to find base form (lemma) of word or collocation in syntactic category passed. Calls **morphword( )** for each word in string passed.
morphword	Try to find base form (lemma) of individual word in syntactic category passed.

Utility Functions (wnutil.o)

wninit	Top level function to open database files and morphology exception lists.
re_wninit	Top level function to close and reopen database files and morphology exception lists.
cntwords	Count the number of underscore or space separated words in a string.
strtolower	Convert string to lower case and remove trailing adjective marker if found.
ToLowerCase	Convert string passed to lower case.
strsubst	Replace all occurrences of *from* with *to* in *str*.
getptrtype	Return code for pointer type character passed.
getpos	Return syntactic category code for string passed.
getsstype	Return synset type code for string passed.
FmtSynset	Reconstruct synset string from synset pointer.
StrToPos	Passed string for syntactic category, returns corresponding integer value.
GetSynsetForSense	Return synset for sense key passed.
GetDataOffset	Find synset offset for sense.
GetPolyCount	Find polysemy count for sense passed.
GetWORD	Return word part of sense key.
GetPOS	Return syntactic category code for sense key passed.
WNSnsToStr	Generate sense key for index entry passed.
GetValidIndexPointer	Search for string and/or base form of word in database and return index structure for word if found.
GetWNSense	Return sense number in database for sense key.
GetSenseIndex	Return parsed sense index entry for sense key passed.
default_display_message	Default function to use as value of **display_message**. Simply returns **-1**.

Binary Search Functions (binsrch.o)

bin_search General purpose binary search function to search for key as first item on line in sorted file.

copyfile Copy contents from one file to another.

replace_line Replace a line in a sorted file.

insert_line Insert a line into a sorted file.

HEADER FILE

wn.h WordNet include file of constants, data structures, external declarations for global variables initialized in **wnglobal.c**. Also lists function prototypes for library API. It must be included to use any WordNet library functions.

NOTES

All library functions that access the database files expect the files to be open. The function **wninit**(3WN) must be called before other database access functions such as **findtheinfo**(3WN) or **read_synset**(3WN).

Inclusion of the header file **wn.h** is necessary.

The command line interface is a good example of a simple application that uses several WordNet library functions.

Many of the library functions are passed or return syntactic category or synset type information. The following table lists the possible categories as integer codes, synset type constant names, syntactic category constant names, single characters and character strings.

Integer	Synset Type	Syntactic Category	Char	String
1	NOUN	NOUN	n	noun
2	VERB	VERB	v	verb
3	ADJ	ADJ	a	adj
4	ADV	ADV	r	adv
5	SATELLITE	ADJ	s	*n/a*

ENVIRONMENT VARIABLES (UNIX)

WNHOME Base directory for WordNet. Default is **/usr/local/WordNet-3.0**.

WNSEARCHDIR Directory in which the WordNet database has been installed. Default is **WNHOME/dict**.

REGISTRY (WINDOWS)

HKEY_LOCAL_MACHINE\SOFTWARE\WordNet\3.0\WNHome
Base directory for WordNet. Default is **C:\Program Files\WordNet\3.0**.

FILES

lib/libwn.a WordNet library (Unix)

lib\wn.lib WordNet library (Windows)

include header files for use with WordNet library

SEE ALSO

wnintro(1WN), **binsrch**(3WN), **morph**(3WN), **wnsearch**(3WN), **wnutil**(3WN), **wnintro**(5WN), **wnintro**(7WN).

Fellbaum, C. (1998), ed. "*WordNet: An Electronic Lexical Database*". MIT Press, Cambridge, MA.

BUGS

Please report bugs to **wordnet@princeton.edu**.