Basic Idea of WordNet Database and how it works

By

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Agenda

- Different types of files
- Output with different commands
- How to find manually

DATABASE INFORMATION

Types of word	Files
Adjective	data.adj , index.adj
Adverb	data.adv , index.adv
Noun	data.noun , index.noun
Verb	data.verb , index.verb

- Exception Lists
  - noun.exc
  - verb.exc
  - adj.exc
  - adv.exc
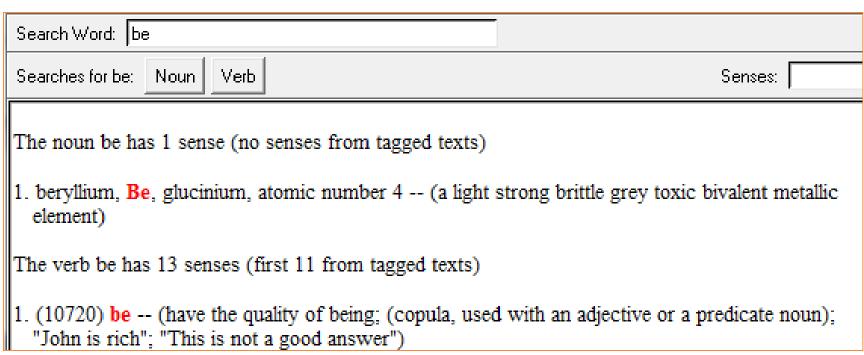- cntlist – count of each word in glossary

DATA.VERB

- *00048819 29 v 01 habit 0 002 @ 00047662 v 0000 + 03479089 n 0101 01 + 09 00 | put a habit on*

  - *synset_offset -* Current byte offset in the file (8 digit)

  - *lex_filenum – (2 digit)* lexicographer file name containing the synset

  - *ss_type – n,v,a,s,r*

  - *w_cnt – number of words in synset (2 digit HEX)*

  - *word – Actual search word*

  - gloss – represented as vertical bar followed by text string. May contain 1 or more examples

INDEX.VERB

- *castilian n 1 1 @ 1 0 06979859*
  - *lemma – lower case word*
  - *pos – n v a r*
  - *synset_cnt – number of synset in that lemma*
  - *p_cnt – number of pointers*

OUTPUT OF WORDNET

- Input word - *be*

Search Word: be

Searches for be: | Noun | Verb | Senses:

The noun be has 1 sense (no senses from tagged texts)

1. beryllium, **Be**, glucinium, atomic number 4 -- (a light strong brittle grey toxic bivalent metallic element)

The verb be has 13 senses (first 11 from tagged texts)

1. (10720) **be** -- (have the quality of being; (copula, used with an adjective or a predicate noun); "John is rich"; "This is not a good answer")

OUTPUT FROM COMMAND LINE

- Input word - *be*

```
C:\Program Files (x86)\WordNet\2.1\bin>wn be -over

Overview of noun be

The noun be has 1 sense (no senses from tagged texts)

1. beryllium, Be, glucinium, atomic number 4 -- (a light strong brittle grey tox
ic bivalent metallic element)

Overview of verb be

The verb be has 13 senses (first 11 from tagged texts)

1. (10720) be -- (have the quality of being; (copula, used with an adjective or
a predicate noun); "John is rich"; "This is not a good answer")
```

EXAMPLE OF ARE

- Input word - *are*

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C:\Program Files (x86)\WordNet\2.1\bin>wn are -over

Overview of noun are

The noun are has 1 sense (no senses from tagged texts)

1. are, ar -- (a unit of surface area equal to 100 square meters)

Overview of verb be

The verb be has 13 senses (first 11 from tagged texts)

1. (10720) be -- (have the quality of being; (copula, used with an adjective or
a predicate noun); "John is rich"; "This is not a good answer")
2. (3033) be -- (be identical to; be someone or something; "The president of the
 company is John Smith"; "This is my house")
```

HOLONYM

- A word that names the whole of which a given word is a part
  - E.g. dog

```
C:\Program Files (x86)\WordNet\2.1\bin>wn dog -sprtn

Part Holonyms of noun dog

2 of 7 senses of dog

Sense 5
frank, frankfurter, hotdog, hot dog, dog, wiener, wienerwurst, weenie
        PART OF: hotdog, hot dog, red hot

Sense 6
pawl, detent, click, dog
        PART OF: ratchet, rachet, ratch
```

How to get members of Holonyms

- Get Holonyms for Dog

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C:\Program Files (x86)\WordNet\2.1\bin>wn dog -smemn

Member Holonyms of noun dog

1 of 7 senses of dog

Sense 1
dog, domestic dog, Canis familiaris
        MEMBER OF: Canis, genus Canis
        MEMBER OF: pack
```

Different Verb Frames

```
C:\Program Files (x86)\WordNet\2.1\bin>wn dog -framv

Sample Sentences of verb dog

1 sense of dog

Sense 1
chase, chase after, trail, tail, tag, give chase, dog, go after, track
        EX:  Sam cannot dog Sue
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C:\Program Files (x86)\WordNet\2.1\bin>wn dog -hholn

Holonyms of noun dog

3 of 7 senses of dog

Sense 1
dog, domestic dog, Canis familiaris
        MEMBER OF: Canis, genus Canis
            MEMBER OF: Canidae, family Canidae
                MEMBER OF: Carnivora, order Carnivora
                    MEMBER OF: Eutheria, subclass Eutheria
                        MEMBER OF: Mammalia, class Mammalia
                            MEMBER OF: Vertebrata, subphylum Vertebrata, Crani
ata, subphylum Craniata
                                MEMBER OF: Chordata, phylum Chordata
                                    MEMBER OF: Animalia, kingdom Animalia, ani
mal kingdom
        MEMBER OF: pack

Sense 5
frank, frankfurter, hotdog, hot dog, dog, wiener, wienerwurst, weenie
        PART OF: hotdog, hot dog, red hot

Sense 6
pawl, detent, click, dog
        PART OF: ratchet, rachet, ratch
            PART OF: spiral ratchet screwdriver, ratchet screwdriver
```

Meronyms

```
C:\Program Files (x86)\WordNet\2.1\bin>wn dog -partn

Part Meronyms of noun dog

1 of 7 senses of dog

Sense 1
dog, domestic dog, Canis familiaris
          HAS PART: flag
```

COORDINATE TERMS

- For antonyms (use -ants{n|v|a|r})

   C:\Program Files (x86)\WordNet\2.1\bin>wn bad -antsn

```
C:\Program Files (x86)\WordNet\2.1\bin>wn bad -antsn

Antonyms of noun bad

1 sense of bad

Sense 1
bad, badness
        Antonym of good (Sense 3)
        =>good, goodness
```

Different parameters available

- hype{n|v}   Hypernyms
- entav   Verb Entailment
- pert{a|r}   Pertainyms
- Synonyms (grouped by similarity of meaning)
- Tree{n|v}

THANK YOU