## WordNet (relations)

#### relations

all relations

| SELECT * FROM relations ORDER BY relati |
|---|
|---|

| SELECT *   | FROM relations ORDER | K BY relati |  |  |  |
|------------|----------------------|-------------|--|--|--|
| relationic | relation             | recurses    |  |  |  |
| 1          | hypernym             | 1           |  |  |  |
| 2          | hyponym              |             |  |  |  |
| 3          | instance hypernym    | 1           |  |  |  |
| 4          | instance hyponym     | 1           |  |  |  |
| 11         | part holonym         | 1           |  |  |  |
| 12         | part meronym         | 1           |  |  |  |
| 13         | member holonym       | 1           |  |  |  |
| 14         | member meronym       | 1           |  |  |  |
| 15         | substance holonym    | 1           |  |  |  |
| 16         | substance meronym    | 1           |  |  |  |
| 21         | entails              | 1           |  |  |  |
| 22         | is entailed by       | 1           |  |  |  |
| 23         | causes               | 1           |  |  |  |
| 24         | is caused by         | 1           |  |  |  |
| 30         | antonym              | 0           |  |  |  |
| 40         | similar              | 0           |  |  |  |
| 50         | also                 | 0           |  |  |  |
| 60         | attribute            | 0           |  |  |  |
| 70         | verb group           | 0           |  |  |  |
| 71         | participle           | 0           |  |  |  |
| 80         | pertainym            | 0           |  |  |  |
| 81         | derivation           | 0           |  |  |  |
| 91         | domain topic         | 0           |  |  |  |
| 92         | domain member topic  | 0           |  |  |  |
| 93         | domain region        | 0           |  |  |  |
| 94         | domain member region | 0           |  |  |  |
| 95         | exemplifies          | 0           |  |  |  |
| 96         | is exemplified by    | 0           |  |  |  |
| 97         | domain               | 0           |  |  |  |
| 98         | member               | 0           |  |  |  |
| 99         | other                | 0           |  |  |  |

### semantical relations

### SELECT relation, COUNT(\*) FROM semrelations LEFT JOIN relations USING(relationid) GROUP BY relationid ORDER BY relationid

| SELECT Telation, COO | 111( ) 11101 |
|----------------------|--------------|
| relation             | COUNT(*)     |
| hypernym             | 91550        |
| hyponym              | 91550        |
| instance hypernym    | 8590         |
| instance hyponym     | 8590         |
| part holonym         | 9199         |
| part meronym         | 9199         |
| member holonym       | 12296        |
| member meronym       | 12296        |
| substance holonym    | 830          |
| substance meronym    | 830          |
| entails              | 408          |
| is entailed by       | 408          |
| causes               | 221          |
| is caused by         | 221          |
| similar              | 23184        |
| also                 | 2730         |
| attribute            | 1278         |
| domain topic         | 6716         |
| domain member topic  | 6716         |
| domain region        | 1355         |
| domain member region | 1355         |
| exemplifies          | 995          |
| is exemplified by    | 995          |

max synset relations per synset

## SELECT synset1id, COUNT(\*) AS c, definition FROM semrelations LEFT JOIN synsets AS s ON (s.synsetid = synset1id) GROUP BY synset1id ORDER BY c DESC LIMIT 5

| synset1id | c   definition  |
|-----------|---|
| 81901     | 671 a large and densely populated urban area; may include several independent administrative districts  |
|           | 613 the collection of rules imposed by authority  |
| 83427     | a monarchy in northwestern Europe occupying most of the British Isles; divided into England and Scotland and Wales and Northern Ireland; `Great Britain' is often used loosely to refer to the United Kingdom |
| 121       | 421 a human being; person, singular, assertive existential pronoun; pronoun, person, singular; quantifier: assertive existential  |
| 2580      | 402 cause to change: make different: cause a transformation   |

available semantic relations for synset

# SELECT sy1.synsetid,sy1.definition,relation,COUNT(relation) FROM semrelations LEFT JOIN synsets AS sy1 ON (sy1.synsetid = synset1id) LEFT JOIN relations USING (relationid) WHERE sy1.synsetid = 6 GROUP BY relationid

| synsetid | definition                            | relation | COUNT(relation) |
|----------|---------------------------------------|----------|-----------------|
| 6        | an entity that has physical existence | hypernym | 1               |
|          |                                       |          |                 |

SELECT w1.word,sy1.definition,relation,GROUP\_CONCAT(w2.word),sy2.definition FROM semrelations LEFT JOIN synsets AS sy1 ON (sy1.synsetid = synset1id) LEFT JOIN senses AS s1 ON (sy1.synsetid = s1.synsetid) LEFT JOIN words AS w1 ON (s1.wordid = w1.wordid) LEFT JOIN synsets AS sy2 ON (sy2.synsetid = synset2id) LEFT JOIN senses AS s2 ON (sy2.synsetid = s2.synsetid) LEFT JOIN words AS w2 ON (s2.wordid = w2.wordid) LEFT JOIN relations USING(relationid) WHERE w1.word = 'pull' GROUP BY sy1.synsetid,w1.word,sy1.definition,relationid,relation,sy2.synsetid,sy2.synsetid,sy2.definition ORDER BY sy1.synsetid,relationid

| word |   | relation        | ·   | definition   |
|------|---|-----------------|---|--|
| pull |   | hypernym        | wound,injure  | cause injuries or bodily harm to   |
| pull | the act of pulling; applying force to move something toward or with you   | hypernym        | propulsion,actuation                                  | the act of propelling  |
| pull | toward of with you  | hyponym         | haulage,haul,draw                                     | the act of drawing or hauling something  |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | drag  | the act of dragging (pulling with force)   |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | traction  | (orthopedics) the act of pulling on a bone or limb (as in a fracture) to relieve pressure or align parts in a special way during healing |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | pluck   | the act of pulling and releasing a taut cord   |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | deracination, excision, extirpation                   | the act of pulling up or out; uprooting; cutting off from existence  |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | draught,drawing,draft                                 | the act of moving a load by drawing or pulling   |
| pull | the act of pulling; applying force to move something toward or with you   | hyponym         | jerk,tug  | a sudden abrupt pull   |
| pull | take away   | hypernym        | withdraw,take<br>away,take,remove                     | remove something concrete, as by lifting, pushing, or taking off, or remove something abstract   |
| pull | take away   | similar         | pull out,take out,draw,get<br>out,pull                | bring, take, or pull out of a container or from under a cover  |
| pull | a sustained effort  | hypernym        | travail,exertion,elbow<br>grease,sweat,effort         | use of physical or mental energy; hard work  |
| pull | a slow inhalation (as of tobacco smoke)                                   |                 | aspiration,breathing in,inhalation,inspiration,intake | the act of inhaling; the drawing in of air (or other gases) as in breathing  |
| pull | a slow inhalation (as of tobacco smoke)                                   | hyponym         | toke  | a puff of a marijuana or hashish cigarette   |
| pull | a slow inhalation (as of tobacco smoke)                                   | part<br>holonym | smoke,smoking   | the act of smoking tobacco or other substances   |
| pull | take sides with; align oneself with; show strong sympathy for             | hypernym        | side  | take sides for or against  |
| pull | remove, usually with some force or effort; also used in an abstract sense | hypernym        | withdraw,take<br>away,remove,take                     | remove something concrete, as by lifting, pushing, or taking off, or remove something abstract   |
| pull | remove, usually with some force or effort; also used in an abstract sense | hyponym         | squeeze out,wring out                                 | extract (liquid) by squeezing or pressing  |
| pull | remove, usually with some force or effort; also used in an abstract sense | hyponym         | demodulate  | extract information from a modulated carrier wave  |
| pull | remove, usually with some force or effort; also used in an abstract sense | hyponym         | thread  | remove facial hair by tying a fine string around it and pulling at the string  |

|      | remove, usually with some force or effort; also used in an abstract sense                   | similar         | pull out,draw,get out,pull,take<br>out | bring, take, or pull out of a container or from under a cover  |
|------|---|-----------------|--|--|
| oull | strip of feathers   | hypernym        | strip                                  | remove the surface from  |
|      | hit in the direction that the player is facing when carrying through the swing              | hypernym        | hit                                    | cause to move by striking  |
|      | hit in the direction that the player is facing when carrying through the swing              | domain<br>topic | baseball game,baseball,ball            | a ball game played with a bat and ball between two teams of nine players; teams take turns at bat trying to score runs |
| oull | cause to move by pulling  | hypernym        | move,displace                          | cause to move or shift into a new position or place, both in a concrete and in an abstract sense                       |
| oull | cause to move by pulling  | hyponym         | tug                                    | pull or strain hard at   |
| oull | cause to move by pulling  | hyponym         | pick off,pluck,tweak,pull off          | pull or pull out sharply   |
| oull | cause to move by pulling  | hyponym         | winch                                  | pull or lift up with or as if with a winch   |
| oull | cause to move by pulling  | hyponym         | yank,jerk                              | pull, or move with a sudden movement   |
| oull | cause to move by pulling  | hyponym         | draw in,attract,pull in,pull,draw      | direct toward itself or oneself by means of some psychological power or physical attributes                            |
| oull | cause to move by pulling  | hyponym         | cart,drag,hale,haul                    | draw slowly or heavily   |
| oull | cause to move by pulling  | hyponym         |  | pull, as against a resistance  |
| oull | cause to move by pulling  | hyponym         | pick,pluck,plunk                       | pull lightly but sharply with a plucking motion  |
|      | cause to move by pulling  | hyponym         |  | pull in opposite directions  |
|      | cause to move by pulling  | hyponym         |  | pull away from the body  |
|      | cause to move by pulling  | hyponym         |  | draw a limb towards the body   |
|      | cause to move by pulling  | hyponym         |  | move to a rearward position; pull towards the back   |
|      | cause to move by pulling  | hyponym         |  | move or pull with a sudden motion  |
|      | cause to move by pulling  | 0 2 0           | pull                                   | apply force so as to cause motion towards the source of the motion   |
|      | cause to move by pulling  |                 | pull,draw                              | cause to move in a certain direction by exerting a force upon, either physically or in an abstract sense               |
|      | direct toward itself or oneself by means of some psychological power or physical attributes | hypernym        | draw,pull                              | cause to move by pulling   |
| 11   | direct toward itself or oneself by means of some psychological power or physical attributes | hyponym         | catch,get,arrest                       | attract and fix  |
| 11   | direct toward itself or oneself by means of some psychological power or physical attributes | hyponym         | retract,draw in                        | pull inward or towards a center  |
|      | direct toward itself or oneself by means of some psychological power or physical attributes | hyponym         | bring                                  | attract the attention of   |
| ouii | direct toward itself or oneself by means of some psychological power or physical attributes | hyponym         | tug                                    | pull hard  |
| uII  | direct toward itself or oneself by means of some psychological power or physical attributes | similar         | draw in,retract                        | pull inward or towards a center  |
| ull  | direct toward itself or oneself by means of some psychological power or physical attributes |                 | curl,curl up,draw in                   | shape one's body into a curl   |
|      | tear or be torn violently   | hypernym        | bust,rupture,snap,tear                 | separate or cause to separate abruptly   |
| ull  | apply force so as to cause motion towards the source of the motion                          | hypernym        | force                                  | do forcibly; exert force   |
| uII  | apply force so as to cause motion towards the source of the motion                          | hyponym         | hike up,hitch up                       | pull up  |
|      | apply force so as to cause motion towards the source of the motion                          | hyponym         | draw close                             | pull towards oneself   |
| T    |   |                 |  |  |

| pull | apply force so as to cause motion towards the source of the motion                                       | hyponym  | draw back,pull back,retract  | use a surgical instrument to hold open (the edges of a wound or an organ)   |
|------|--|----------|--|---|
| pull | apply force so as to cause motion towards the source of the motion                                       | hyponym  | pick at,pluck at,pull at   | pluck or pull at with the fingers   |
| pull | apply force so as to cause motion towards the source of the motion                                       | hyponym  | attract  | exert a force on (a body) causing it to approach or prevent it from moving away   |
| pull | apply force so as to cause motion towards the source of the motion                                       | hyponym  | gather   | draw and bring closer   |
| pull | apply force so as to cause motion towards the source of the motion                                       | hyponym  | wrench,twist   | twist or pull violently or suddenly, especially so as to remove (something) from that to which it is attached or from where it originates |
| pull | apply force so as to cause motion towards the source of the motion                                       | similar  | pull,draw  | cause to move by pulling  |
| pull | rein in to keep from winning a race  | hypernym | rein,rein in   | stop or check by or as if by a pull at the reins  |
| pull | operate when rowing a boat   | hypernym | row  | propel with oars  |
| pull | bring, take, or pull out of a container or from under a cover  | hypernym | withdraw,remove,take,take<br>away                                      | remove something concrete, as by lifting, pushing, or taking off, or remove something abstract  |
| pull | bring, take, or pull out of a container or from under a cover  |          | unsheathe  | draw from a sheath or scabbard  |
| pull | bring, take, or pull out of a container or from under a cover  | similar  | pull   | take away   |
| pull | bring, take, or pull out of a container or from under a cover  | similar  | take out,draw  | take liquid out of a container or well  |
| pull | bring, take, or pull out of a container or from under a cover  | similar  | take out,rip out,pull up,pull<br>out,pull,tear out,extract,draw<br>out | remove, usually with some force or effort; also used in an abstract sense   |
| pull | steer into a certain direction   | hypernym | drive  | cause someone or something to move by driving   |
| pull | steer into a certain direction   | similar  | pull   | move into a certain direction   |
| pull | move into a certain direction  | hypernym | drive  | move by being propelled by a force  |
| pull | move into a certain direction  | hyponym  | cut in   | drive in front of another vehicle leaving too little space for that vehicle to maneuver comfortably                                       |
| pull | move into a certain direction  | similar  | pull   | steer into a certain direction  |
| pull | cause to move in a certain direction by exerting a force upon, either physically or in an abstract sense | hypernym | move,displace  | cause to move or shift into a new position or place, both in a concrete and in an abstract sense  |
| pull | cause to move in a certain direction by exerting a force upon, either physically or in an abstract sense | similar  | pull,draw  | cause to move by pulling  |
| pull | perform an act, usually with a negative connotation  | hypernym | move,act   | perform an action, or work out or perform (an action)   |
| pull | perform an act, usually with a negative connotation  | hyponym  | make   | carry out or commit   |
| pull | perform an act, usually with a negative connotation  | hyponym  | recommit   | commit once again, as of a crime  |
| pull | a device used for pulling something  | hypernym | device   | an instrumentality invented for a particular purpose  |
| pull | a device used for pulling something  | hyponym  | bellpull   | a handle or cord that is pulled to ring a doorbell or a servant's bell etc.   |
| pull | a device used for pulling something  | hyponym  | pull chain   | a chain (usually with a handle at the end) that is pulled in order to operate some mechanism (e.g. to flush a toilet)                     |
| pull | special advantage or influence   | hypernym | vantage,advantage  | the quality of having a superior or more favorable position   |
| pull | the force used in pulling  | hypernym | force  | (physics) the influence that produces a change in a physical quantity   |
|      |  |          |  | any physical damage to the body caused by violence or accident or   |

| p | ull | a sharp strain on muscles or ligaments | hypernym | injury,trauma,hurt,harm | fracture etc.; the condition of an injury                                 |
|---|-----|--|----------|-------------------------|---|
| p | ull | a sharp strain on muscles or ligaments | hyponym  | sprain                  | a painful injury to a joint caused by a sudden wrenching of its ligaments |

available semantic relations for "pull"'s synsets)

SELECT w1.word,sy1.synsetid,sy1.definition,GROUP\_CONCAT(DISTINCT relation) FROM semrelations LEFT JOIN synsets AS sy1 ON (sy1.synsetid = synset1id) LEFT JOIN senses AS s1 ON (sy1.synsetid = s1.synsetid) LEFT JOIN words AS w1 ON (s1.wordid = w1.wordid) LEFT JOIN relations USING (relationid) WHERE w1.word = 'pull' GROUP BY sy1.synsetid ORDER BY sy1.synsetid

| word | synsetid | definition   | GROUP_CONCAT(DISTINCT relation) |
|------|----------|--|---------------------------------|
| pull | 1372     | strain abnormally  | hypernym                        |
| pull | 2333     | the act of pulling; applying force to move something toward or with you                                  | hypernym,hyponym                |
| pull | 12486    | take away  | hypernym,similar                |
| pull |          | a sustained effort   | hypernym                        |
| pull | 16534    | a slow inhalation (as of tobacco smoke)  | hypernym,hyponym,part holonym   |
| pull | 21377    | take sides with; align oneself with; show strong sympathy for  | hypernym                        |
| pull | 24531    | remove, usually with some force or effort; also used in an abstract sense                                | hypernym,hyponym,similar        |
| pull | 25067    | strip of feathers  | hypernym                        |
| pull | 25452    | hit in the direction that the player is facing when carrying through the swing                           | domain topic,hypernym           |
| -    |          |  | hypernym,hyponym,similar        |
| -    |          |  | hypernym,hyponym,similar        |
| -    |          |  | hypernym                        |
| pull | 28659    | apply force so as to cause motion towards the source of the motion                                       | hypernym,hyponym,similar        |
| pull |          |  | hypernym                        |
| pull | 33977    | operate when rowing a boat   | hypernym                        |
| pull | 34782    | bring, take, or pull out of a container or from under a cover  | hypernym,hyponym,similar        |
| pull | 35818    | steer into a certain direction   | hypernym,similar                |
| pull | 35820    | move into a certain direction  | hypernym,hyponym,similar        |
| pull | 36577    | cause to move in a certain direction by exerting a force upon, either physically or in an abstract sense | hypernym,similar                |
| pull |          |  | hypernym,hyponym                |
| pull | 57779    | a device used for pulling something  | hypernym,hyponym                |
| -    |          |  | hypernym                        |
| pull | 98059    | the force used in pulling  | hypernym                        |
| pull | 112147   | a sharp strain on muscles or ligaments   | hypernym,hyponym                |

#### lexical relations

all lexical relations

## SELECT relation, COUNT(\*) FROM lexrelations LEFT JOIN relations USING(relationid) GROUP BY relationid ORDER BY relationid

| COUNT(*) |
|----------|
| 8000     |
| 2        |
| 1148     |
|          |

| participle           | 73    |
|----------------------|-------|
| pertainym            | 8072  |
| derivation           | 74688 |
| domain topic         | 14    |
| domain member topic  | 14    |
| domain region        | 158   |
| domain member region | 158   |
| exemplifies          | 413   |
| is exemplified by    | 413   |

max sense relations per synset

SELECT synset1id, word1id, COUNT(\*) AS c,word,GROUP\_CONCAT(DISTINCT relation),definition FROM lexrelations LEFT JOIN synsets AS s ON (s.synsetid = synset1id) LEFT JOIN words AS w ON (w.wordid = word1id) LEFT JOIN relations USING(relationid) GROUP BY word1id,synset1id ORDER BY c DESC LIMIT 5

| synset1id | word1id | С   | word          | GROUP_CONCAT(DISTINCT relation)       | definition  |
|-----------|---------|-----|---------------|---------------------------------------|---|
| 72541     | 138537  | 298 | trade<br>name | is exemplified by                     | a name given to a product or service  |
| 83427     | 18033   |     | britain       | region                                | a monarchy in northwestern Europe occupying most of the British Isles; divided into England and<br>Scotland and Wales and Northern Ireland; `Great Britain' is often used loosely to refer to the United<br>Kingdom |
| 72543     | 138555  | 82  | trademark     | domain member topic,is exemplified by | a formally registered symbol identifying the manufacturer or distributor of a product   |
| 83246     | 20565   | 64  | canada        | derivation,domain member region       | a nation in northern North America; the French were the first Europeans to settle in mainland Canada  |
| 7020      | 22035   | 15  | carry         | derivation                            | the act of carrying something   |

word lexical relations

SELECT w1.word,relation,w2.word,s1.definition,s2.definition FROM lexrelations LEFT JOIN synsets AS s1 ON (s1.synsetid = synset1id) LEFT JOIN synsets AS s2 ON (s2.synsetid = synset2id) LEFT JOIN words AS w1 ON (w1.wordid = word1id) LEFT JOIN words AS w2 ON (w2.wordid = word2id) LEFT JOIN relations USING(relationid) WHERE w1.word = 'pull' ORDER BY relationid

| word | relation   | word          | definition   | definition  |
|------|------------|---------------|--|---|
| pull | antonym    | push          | cause to move by pulling   | move with force   |
| pull | also       | pull<br>along | cause to move by pulling   | pull along heavily, like a heavy load against a resistance                                  |
| pull | also       | pull<br>back  | cause to move by pulling   | move to a rearward position; pull towards the back  |
| pull | also       | pull<br>down  | cause to move by pulling   | tear down so as to make flat with the ground  |
| pull | also       | pull in       | cause to move by pulling   | direct toward itself or oneself by means of some psychological power or physical attributes |
| pull | also       | pull off      | cause to move by pulling   | pull or pull out sharply  |
| pull | also       | pull out      | cause to move by pulling   | remove, usually with some force or effort; also used in an abstract sense                   |
| pull | also       | pull up       | cause to move by pulling   | remove, usually with some force or effort; also used in an abstract sense                   |
| pull | derivation | pull          | apply force so as to cause motion towards the source of the motion | the act of pulling; applying force to move something toward or with you                     |

| pull | derivation pulling | cause to move by pulling  | the act of pulling; applying force to move something toward or with you                     |
|------|--------------------|---|---|
| pull | derivation pull    | apply force so as to cause motion towards the source of the motion                          | the force used in pulling   |
| pull | derivation puller  | apply force so as to cause motion towards the source of the motion                          | someone who applies force so as to cause motion toward herself or himself                   |
| pull | derivation pulling | apply force so as to cause motion towards the source of the motion                          | the act of pulling; applying force to move something toward or with you                     |
| pull | derivation pull    | perform an act, usually with a negative connotation   | a sustained effort  |
| pull | derivation pull    | a device used for pulling something   | direct toward itself or oneself by means of some psychological power or physical attributes |
| pull | derivation pull    | the force used in pulling   | direct toward itself or oneself by means of some psychological power or physical attributes |
| pull | derivation pull    | the force used in pulling   | apply force so as to cause motion towards the source of the motion                          |
| pull | derivation pull    | a sharp strain on muscles or ligaments  | strain abnormally   |
| pull | derivation pull    | direct toward itself or oneself by means of some psychological power or physical attributes | the force used in pulling   |
| pull | derivation pull    | direct toward itself or oneself by means of some psychological power or physical attributes | a device used for pulling something   |
| pull | derivation pull    | direct toward itself or oneself by means of some psychological power or physical attributes | the act of pulling; applying force to move something toward or with you                     |
| pull | derivation pull    | strain abnormally   | a sharp strain on muscles or ligaments  |
| pull | derivation puller  | cause to move by pulling  | someone who pulls or tugs or drags in an effort to move something                           |
| pull | derivation pull    | cause to move by pulling  | the act of pulling; applying force to move something toward or with you                     |
| pull | derivation pull    | a sustained effort  | perform an act, usually with a negative connotation   |
| pull | derivation pull    | the act of pulling; applying force to move something toward or with you                     | apply force so as to cause motion towards the source of the motion                          |
| pull | derivation pull    | the act of pulling; applying force to move something toward or with you                     | direct toward itself or oneself by means of some psychological power or physical attributes |
| pull | derivation pull    | the act of pulling; applying force to move something toward or with you                     | cause to move by pulling  |