**Assignment4**

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**Q1:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Word** | **WordNet** | **Collins Cobuild** | **Analysis** |
| imitation | **5**  1. (n) the doctrine that representations of nature  2. (n) something copied or derived from an original  3. (n) copying the actions of someone else  4. (n) a representation of a person that is exaggerated for comic effect  5. (adj) not genuine or real | **4**  1. (n) a copy of something, fake  2. (n) copy someone else’s action, copying  3. (adj) not genuine but are made to look similar  4. (n) copy the way of speaking or behaving of another person, sometimes to be funny | I agree with WordNet. The difference between Wordnet and Collins is sence#*1* in the WordNet*.* I think sense#1 in Word Net is a high technology and it is different from simply copying something. |
| synthetic | **7**  1. (n) a compound made artificially by chemical reactions  2. (adj) not of natural origin; prepared or made artificially  3. (adj) involving or of the nature of synthesis as opposed to analysis  4. (adj) systematic combining of root and modifying elements into single words  5. of a proposition whose truth value is determined by observation or facts  6. (adj) artificial as if portrayed in a film  7. (adj) not genuine or natural | **1**  1. (adj) Synthetic products are made from chemicals or artificial substances rather than from natural ones. | I agree with WordNet. The Wordnet provides a detailed explanation, but the sense in Collin is too general. |
| artificial | **3**  1. (adj) contrived by art rather than nature  2. (adj) artificially formal  3. (adj) not arising from natural growth or characterized by vital processes | **4**  1. (adj) Artificial objects, materials, or processes do not occur naturally and are created by human beings  2. (adj) An artificial state or situation exists only because someone has created it, and therefore often seems unnatural or unnecessary.  3. (adj) disapprove of some things because they pretend to have attitudes and feelings which they do not really have.  4. (adj) If saying food tastes or looks artificial, you do not like it because its taste or appearance does not seem genuine, and seems to be created by added substances. | I don’t agree with WordNet. The Collins Cobuild provides a more detailed explanation and gives various types. The sense#2 in the WordNet is not very detailed and not understandable. |
| fake | **8**  1. (n) something that is a counterfeit  2. (n) a person who makes deceitful pretenses  3. (n) (football) a deceptive move  4. (v) make a copy of with the intent to deceive  5. (v) tamper, with the purpose of deception  6. (v) speak insincerely or without regard for facts or truths  7. (adj) fraudulent  8. (adj) not genuine or real | **4**  1.(adj) look valuable or genuine, usually in order to deceive people  2. (v) make it look valuable or genuine, although in fact it is not  3. (n) they do not have the qualifications that they claim to have  4. (v) pretend that you are experiencing it when you are not | I agree with WordNet. The Wordnet provides a detailed explanation, but the sense in Collin is too general. |
| simulated | **5**  1. (v) reproduce someone's behavior or looks  2. (v) create a representation or model of  3. (v) make a pretence of  4. (adj) not genuine or real; being an imitation of the genuine article  5. (adj) reproduced or made to resemble; imitative in character | **2**  1. (adj) of fur, leather, pearls, etc) being an imitation of the genuine article, usually made from cheaper material  2. (adj) (of actions, qualities, emotions, etc) imitated; feigned | I agree with WordNet. The Wordnet provides a detailed explanation, but senses in Collin are too general. |

**Q2:**

**Word: bat (noun), I only get 5 distinct senses of noun bat in the WordNet.**

*bat1:* (n) chiropteran (nocturnal mouselike mammal)

*bat2:* (n) at-bat ((baseball) a turn trying to get a hit)

*bat3:* (n) squash racket (a small racket with a long handle used for playing squash)

*bat4:* (n) cricket bat (the club used in playing cricket)

*bat5:* (n) a club used for hitting a ball in various games

*Homonymy:*

bat1 and bat2

*Polysemy:*

bat3, bat4 and bat5

*Argument:*

bat3 and bat4 are both standing for a thing that we can use it to play a game. In bat3, we can play squash and we can play cricket in bat4. The sense of bat5 is more like a hypernymy of bat3 and bat4. These senses all means a club that can be used for playing, therefore, bat3, bat4 and bat5 are polysemy.

**Q3:**

I choose Chinese and English

|  |  |  |  |
| --- | --- | --- | --- |
|  | Word in English | First sense with Chinese translation | Second sense with Chinese translation |
| Senses translated into different words | spring | Spring is the season between winter and summer when the weather becomes warmer and plants start to grow again. （春天） | A spring is a spiral of wire which returns to its original shape after it is pressed or pulled. （弹簧） |
| table | A table is a piece of furniture with a flat top that you put things on or sit at. （桌子） | A table is a written set of facts and figures arranged in columns and rows. （表格） |
| right | If something is right, it is correct and agrees with the facts. （正确的） | The right is one of two opposite directions, sides, or positions. （右） |
| Senses translated into the same word | nail | A nail is a thin piece of metal with one pointed end and one flat end. You hit the flat end with a hammer in order to push the nail into something such as a wall. （钉） | If you nail something somewhere, you fasten it there using one or more nails. （钉） |
| hole | A hole is a hollow space in something solid, with an opening on one side. （洞） | A hole is an opening in something that goes right through it. （洞） |
| think | If you think that something is the case, you believe that it is the case（觉得） | If you say that you think that something is true or will happen, you mean that you have the impression that it is true or will happen, although you are not certain of the facts. （觉得） |

**Q4:**

**The open classes in English are nouns, lexical verbs, adjective, adverbs. I use WordNet3.1.**

1. The last full moon of 2017 will appear especially plump and vibrant in the night sky this weekend.

* *Length:* 18
* *Distinct combinations:* 32256

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| last | 8 | 2 | 9 | 2 |
| full | 1 | 3 | 8 | 1 |
| moon | 6 | 3 | - | - |
| appear | - | 7 | - | - |
| especially | - | - | - | 2 |
| plump | 1 | 4 | 1 | 1 |
| vibrant | - | - | 3 | - |
| night | 8 | - | - | - |
| sky | 1 | 1 | - | - |
| weekend | 1 | 1 | - | - |

1. And yet, the perfection of the physical elements was never the end goal.

* *Length:* 13
* *Distinct combinations:* 672

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| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| perfection | 3 | - | - | - |
| physical | - | - | 7 | - |
| elements | 1 | - | - | - |
| never | - | - | - | 2 |
| end | 14 | 4 | - | - |
| goal | 4 | - | - | - |

1. It’s still a mixed bag.

* *Length:* 6
* *Distinct combinations:* 108

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| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| still | 4 | 4 | 6 | 4 |
| mixed | - | - | 2 | - |
| bag | 9 | 5 | - | - |

1. Throughout his career, he has taken on the interests and physical challenges of every character he plays.

* *Length:* 17
* *Distinct combinations:* 1234800

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| throughout | - | - | - | 2 |
| career | 2 | 1 | - | - |
| taken | - | - | 2 | - |
| interests | 7 | 3 | - | - |
| physical | - | - | 7 | - |
| challenges | 5 | 4 | - | - |
| every | - | - | 2 | - |
| character | 9 | 1 | - | - |
| plays | 17 | 35 | - | - |

1. The insane popularity of a single sweatshirt has forced its maker to expand into four new factories within the last year just to meet the soaring demand.

* *Length:* 27
* *Distinct combinations:* 372556800

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| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| insane | - | - | 2 | - |
| popularity | 1 | - | - | - |
| single | 2 | 1 | 7 | - |
| sweatshirt | 1 | - | - | - |
| forced | - | 4 | - | - |
| maker | 3 | - | - | - |
| expand | - | 7 | - | - |
| new | - | - | 10 | 1 |
| factories | 1 | - | - | - |
| last | 8 | 2 | 9 | 2 |
| year | 4 | - | - | - |
| just | - | - | 4 | 8 |
| meet | 1 | 11 | 1 | - |
| soaring | 1 | - | 2 | - |
| demand | 5 | 6 | - | - |

1. At the time, American Giant had only one factory in Brisbane, California. The company has since expanded into a factory in Los Angeles and three more in rural North Carolina, just outside Raleigh.

* *Length:* 33
* *Distinct combinations:* 287280

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| time | 10 | 5 | - | - |
| American | 3 | - | 2 | - |
| Giant | 7 | - | 1 | - |
| have | 1 | 19 | - | - |
| only | - | - | 2 | 7 |
| factory | 1 | - | - | - |
| company | 9 | 1 | - | - |
| expanded | - | - | 1 | - |
| more | 1 | - | 2 | 2 |
| rural | - | - | 2 | - |

1. Shortly after the announcement, a video surfaced on local television.

* *Length:* 10
* *Distinct combinations:* 1080

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| shortly | - | - | - | 5 |
| announcement | 2 | - | - | - |
| video | 4 | - | - | - |
| surfaced | - | 3 | - | - |
| local | 2 | - | 3 | - |
| television | 3 | - | - | - |

1. “We want to make the government aware that it cannot put an end to the gangs,” the speaker said.

* *Length:* 19
* *Distinct combinations:* 32598720

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| want | 4 | 5 | - | - |
| make | 2 | 49 | - | - |
| government | 4 | - | - | - |
| aware | - | - | 2 | - |
| put | 1 | 9 | - | - |
| end | 14 | 4 | - | - |
| gangs | 4 | 1 | - | - |
| speaker | 3 | - | - | - |
| said | - | 11 | 1 | - |

1. This video was, in a way, the capstone to his efforts.

* *Length:* 11
* *Distinct combinations:* 384

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| video | 4 | - | - | - |
| way | 12 | - | - | 1 |
| capstone | 2 | - | - | - |
| efforts | 4 | - | - | - |

1. If the government did not care to stop the violence, then the gangs would pursue peace on their own.

* *Length:* 19
* *Distinct combinations:* 52800

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| government | 4 | - | - | - |
| care | 6 | 5 | - | - |
| stop | 11 | 11 | - | - |
| violence | 3 | - | - | - |
| gangs | 4 | 1 | - | - |
| pursue | - | 4 | - | - |
| peace | 5 | - | - | - |
| own | - | 1 | 1 | - |

1. The cafe is the closest eatery to the hippo tank, and therefore the closest to Fiona, the 10-month-old hippo who bounces around inside it.

* *Length:* 26
* *Distinct combinations:* 1120

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| cafe | 1 | - | - | - |
| closest | - | - | - | 1 |
| eatery | 1 | - | - | - |
| hippo | 2 | - | - | - |
| tank | 5 | 3 | - | - |
| month | 2 | - | - | - |
| old | 1 | - | 8 | - |
| bounces | 3 | 7 | - | - |

1. “She has all the merch, the tumblers, the calendar. If there’s something with Fiona’s face on it, she has to have it first.”

* *Length:* 20
* *Distinct combinations:* 5928

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| has | - | 19 | - | - |
| all | - | - | 2 | 1 |
| tumblers | 4 | - | - | - |
| calendar | 3 | 1 | - | - |
| face | 13 | 9 | - | - |

1. When Fiona was born, no one expected her to survive.

* *Length:* 10
* *Distinct combinations:* 52

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| born | 1 | 13 | 2 | - |
| survive | - | 4 | - | - |

1. The animal becomes a meme, a product, a unit of sale.

* *Length:* 11
* *Distinct combinations:* 720

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| animal | 1 | - | 1 | - |
| becomes | - | 4 | - | - |
| meme | 1 | - | - | - |
| product | 6 | - | - | - |
| unit | 6 | - | - | - |
| sale | 5 | - | - | - |

1. In other words, it can be dangerous to overhype and anthropomorphize wild animals, as we project our fantasies and desires onto them and turn the narrative into a heartwarming tale that serves to reaffirm our own sense of goodness.

* *Length:* 38
* *Distinct combinations:* 438048000

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| other | - | - | 4 | - |
| words | 5 | 1 | - | - |
| dangerous | - | - | 2 | - |
| anthropomorphize | - | 1 | - | - |
| wild | 2 | - | 13 | 2 |
| animals | 1 | - | - | - |
| project | 2 | 12 | - | - |
| fantasies | 3 | 1 | - | - |
| desires | 3 | 3 | - | - |
| turn | 12 | 26 | - | - |
| narrative | 1 | - | 1 | - |
| heartwarming | - | - | 1 | - |
| tale | 2 | - | - | - |
| serves | 2 | 15 | - | - |
| reaffirm | - | 1 | - | - |
| own | - | 1 | 1 | - |
| sense | 5 | 4 | - | - |
| goodness | 2 | - | - | - |

1. Two weeks later, on Halloween, the zoo announced his death.

* *Length:* 10
* *Distinct combinations:* 288

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| weeks | 3 | - | - | - |
| later | - | - | 2 | 3 |
| zoo | 1 | - | - | - |
| announced | - | 4 | 1 | - |
| death | 8 | - | - | - |

1. Fiona’s celebrity has undeniably been good for human business.

* *Length:* 9
* *Distinct combinations:* 1134

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| celebrity | 2 | - | - | - |
| undeniably | - | - | - | 1 |
| good | 4 | - | 21 | 2 |
| human | 1 | - | 3 | - |
| business | 9 | - | - | - |

1. He is also haunted by the memory of his mother, for whom he made a wedding dress for her second marriage while he was still a young boy.

* *Length:* 28
* *Distinct combinations:* 14288400

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| haunted | - | 3 | 3 | - |
| memory | 5 | - | - | - |
| mother | 5 | 2 | - | - |
| made | - | 49 | 3 | - |
| wedding | 3 | - | - | - |
| dress | 3 | 16 | 2 | - |
| marriage | 4 | - | - | - |
| still | 4 | 4 | 6 | 4 |
| young | 9 | 5 | - | - |
| boy | 3 | - | - | - |

1. “When people hear we’ve held her, they want to touch our hands,” Ms. Curley said.

* *Length:* 16
* *Distinct combinations:* 1900800

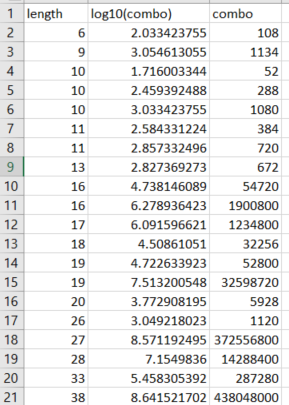
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| people | 4 | 2 | - | - |
| hear | - | 5 | - | - |
| held | - | 36 | 1 | - |
| touch | 12 | 15 | - | - |
| hands | 16 | 2 | - | - |
| said | - | 11 | 1 | - |

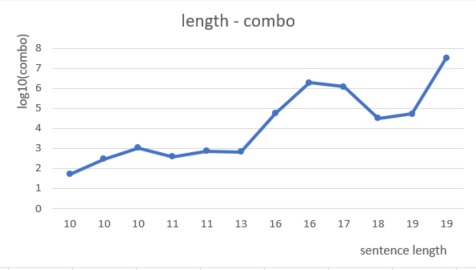
1. Almost everyone I spoke with in Cincinnati seemed to have an opinion on the blessed child.

* *Length:* 16
* *Distinct combinations:* 54720

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Open-class word** | **Senses** | | | |
| **NOUN** | **VERB** | **ADJECTIVE** | **ADVERB** |
| spoke | 2 | 5 | - | - |
| seemed | - | 4 | - | - |
| have | 1 | 19 | - | - |
| opinion | 6 | - | - | - |
| blessed | - | 4 | 6 | - |
| child | 4 | - | - | - |

**Analysis:**





In general, the distinct combinations of senses are increasing with the growth of sentence lengths. However, it is not a very strict rule. Some sentences that includes words with various senses have a large distinct combination of senses, no matter how long of them.

**Q5:**

**I use WordNet to tag each open-class word in each sentence.**

1.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| last | adv |
| full | adj |
| moon | n |
| appear | v |
| especially | adv |
| plump | adj |
| vibrant | adj |
| night | n |
| sky | n |
| weekend | n |

2.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| perfection | n |
| physical | adj |
| elements | n |
| never | adv |
| end | n |
| goal | n |

3.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| still | adv |
| mixed | adj |
| bag | n |

4.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| throughout | adv |
| career | n |
| taken | v |
| interests | n |
| physical | adj |
| challenges | n |
| every | adj |
| character | n |
| plays | v |

5.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| insane | adj |
| popularity | n |
| single | adj |
| sweatshirt | n |
| forced | v |
| maker | n |
| expand | v |
| new | adj |
| factories | n |
| last | adj |
| year | n |
| just | adv |
| meet | v |
| soaring | adj |
| demand | n |

6.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| time | n |
| American | n |
| Giant | adj |
| have | v |
| only | adj |
| factory | n |
| company | n |
| expanded | v |
| more | adj |
| rural | adj |

7.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| shortly | adv |
| announcement | n |
| video | n |
| surfaced | v |
| local | adj |
| television | n |

8.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| want | v |
| make | v |
| government | n |
| aware | adj |
| put | v |
| end | v |
| gangs | n |
| speaker | n |
| said | v |

9.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| video | n |
| way | adv |
| capstone | n |
| efforts | n |

10.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| government | n |
| care | v |
| stop | v |
| violence | n |
| gangs | n |
| pursue | v |
| peace | n |
| own | adj |

11.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| cafe | n |
| closest | adj |
| eatery | n |
| hippo | n |
| tank | n |
| month | n |
| old | adj |
| bounces | v |

12.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| has | v |
| all | adj |
| tumblers | n |
| calendar | n |
| face | n |

13.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| born | v |
| survive | v |

14.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| animal | n |
| becomes | v |
| meme | n |
| product | n |
| unit | n |
| sale | n |

15.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| other | adj |
| words | n |
| dangerous | adj |
| anthropomorphize | v |
| wild | adj |
| animals | n |
| project | v |
| fantasies | n |
| desires | n |
| turn | v |
| narrative | adj |
| heartwarming | adj |
| tale | n |
| serves | v |
| reaffirm | v |
| own | adj |
| sense | n |
| goodness | n |

16.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| weeks | n |
| later | adv |
| zoo | n |
| announced | v |
| death | n |

17.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| celebrity | n |
| undeniably | adv |
| good | adj |
| human | adj |
| business | n |

18.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| haunted | v |
| memory | n |
| mother | n |
| made | v |
| wedding | n |
| dress | n |
| marriage | n |
| still | adv |
| young | adj |
| boy | n |

19.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| people | n |
| hear | v |
| held | v |
| touch | v |
| hands | n |
| said | v |

20.

|  |  |
| --- | --- |
| **Open-class word** | **Tagger** |
| spoke | v |
| seemed | v |
| have | v |
| opinion | n |
| blessed | adj |
| child | n |

Analysis: I don’t think choose the correct sense is always a straightforward task. Some proper noun, like American Giant, I can’t figure out what is the meaning of Giant here. Therefore, I don’t know it is a noun or an adjective.

**Q6:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Subject | Verb | Object | disambiguated (1) / ambiguated (0) |
| 1 | moon | appear |  | 1 |
| 2 | perfection | be | goal | 0 |
| 3 | it | be | bag | 0 |
| 4 | he | take |  | 0 |
| 5 | popularity | force | maker | 0 |
|  |  | meet | demand | 1 |
| 6 | American Gaint | have | factory | 1 |
|  | company | expand |  | 1 |
| 7 | video | surface |  | 0 |
| 8 | we | want |  | 1 |
|  |  | make | government | 0 |
|  | it | put | end | 0 |
|  | speaker | say |  | 1 |
| 9 | video | be | capstone | 1 |
| 10 | government | care |  | 1 |
|  | gang | pursue | peace | 1 |
| 11 | café | be | eatery | 1 |
|  | hippo | bounce |  | 1 |
| 12 | she | have | merch/tumbler/calendar | 1 |
|  | she | have | it | 0 |
| 13 |  | born | fiona | 1 |
|  | one | expected | her | 1 |
| 14 | animal | become | meme/product/unit | 1 |
| 15 | it | be |  | 1 |
|  | we | project | fantasy/desire | 1 |
|  | we | turn | narrative | 0 |
|  | tale | serve |  | 0 |
|  |  | reaffirm | sense | 1 |
| 16 | zoo | annouce | death | 1 |
| 17 | celebrity | be |  | 0 |
| 18 | memory | haunt | he | 1 |
|  | he | make | dress | 0 |
|  | he | be | boy | 1 |
| 19 | people | hear |  | 1 |
|  | we | hold | he | 0 |
|  | they | want |  | 1 |
|  |  | touch | hand | 1 |
|  | Curley | say |  | 1 |
| 20 | everyone | seem |  | 1 |
|  |  | have | opinion | 1 |
|  | I | speak |  | 0 |
| How often does it appear to be the case that the words taking part in these relations could be disambiguated using only information about the words in the relation? | | | | 66% |

**Q7.**

I chose two measures: Path length and Wu & Palmer.

Path length: A simple node-counting scheme (path). The relatedness score is inversely proportional to the number of nodes along the shortest path between the synsets. The shortest possible path occurs when the two synsets are the same, in which case the length is 1. Thus, the maximum relatedness value is 1.

Wu & Palmer: The Wu & Palmer measure (wup) calculates relatedness by considering the depths of the two synsets in the WordNet taxonomies, along with the depth of the LCS. The formula is score = 2\*depth(lcs) / (depth(s1) + depth(s2)). This means that 0 < score <= 1. The score can never be zero because the depth of the LCS is never zero (the depth of the root of a taxonomy is one). The score is one if the two input synsets are the same.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Word Pair | | Similarity Score (max=1) | Path Length (max=1) | Wu & Palmer (max=1) |
| cord | smile | 0.033 | 0.091 | 0.375 |
| rooster | voyage | 0.020 | 0.042 | 0.148 |
| monk | slave | 0.138 | 0.200 | 0.714 |
| forest | graveyard | 0.210 | 0.111 | 0.500 |
| tool | implement | 0.738 | 0.500 | 0.941 |
| bird | cock | 0.763 | 0.500 | 0.957 |
| food | fruit | 0.770 | 0.100 | 0.471 |
| asylum | madhouse | 0.903 | 0.500 | 0.957 |
| brother | lad | 0.415 | 0.200 | 0.714 |
| automobile | car | 0.980 | 1.000 | 1.000 |
| Correlation rate (max=1) | | | 0.48 | 0.29 |