

Ergebnisse der Fingerübung :

Benutzungshinweise :

Es wurde wie empfohlen die Umgebung Anaconda genutzt.

Hiermit wurde ebenfalls in der Prompt spacy installiert.

```
conda install -c conda-forge spacy
```

```
conda install -c conda-forge spacy-model-en_core_web_sm
```

User-Interface:

Wenn der Code ausgeführt wird wird ein Userinterface in der Konsole gestartet mit dem sich alle Aufgaben ausführen lassen.

```
Enter 1 for task 2.2 - Read in xml
Enter 2 for task 2.3.1 - Counted PoS Tags
Enter 3 for task 2.3.2 - Counting of Tags
Enter 4 for task 2.3.3 - QS Types
Enter 5 for task 2.3.4 - Sentence length + Visual representation : In 234.png
Enter 6 for task 2.3.5 - Spatial triggers
Enter 7 for task 2.3.6 - Most used movement verbs
Enter 8 for task 2.4 - Graph of bicycles and Prado Museum
Enter 9 to finish

Please enter the number: |
```

Aufgabe 2.2

Der Output von Aufgabe 2.1 sind 1.) die Texte in einer Liste gespeichert.

2.) Die Tokens zusammen mit ihren PoS Tags in einer Liste gespeichert (mithilfe von Spacy)

Texte :

```
Please enter the number: 1

Please wait!

Read in of all texts:

['      Asakusa\n      Asakusa is the heart of Shitamachi, the quarter\n      best-beloved of that fractious, gossipy, prodigal population called the\n      Edokko, who trace their "downtown" roots back at least three\n      generations. Edokko are suckers for sentimentality and for ninjo: the\n      web of small favors and kindnesses that bind them together. Sneeze in\n      the middle of the night and your Edokko neighbor will demand the next\n      morning that you take better care of yourself; stay home with a fever\n      and she will be over by noon with a bowl of soup. An Edokko craftsman\n      would rather lose a commission than take any guff from a customer who\n      \n      doesn't know good work when he sees it. Edokko quarrel in a language\n      all their own, an earthy local dialect as profane and expressive as\n      Brooklynese. Ignore the proprieties\u2002\u2002or offend the pride of an\n      Edokko\u2002\u2002and he will let you know about it, in no uncertain terms;\n      respect his sense of values and you make a friend for life.\n      The heart of Asakusa, in turn, is Sensoji (also known as\n      the Asakusa Kannon temple). According to legend, the temple houses a\n      small statue of the Buddhist goddess of mercy, found in the Sumida\n      River by two local fishermen in the year 628\u2002\u2002but in fact not even the\n      temple priests have ever seen it. When Edo became the capital of the\n      Tokugawa shogunate, Asakusa began to flourish as an entertainment\n      quarter. In the early-19th century even the kabuki theaters were\n      located here. The Meiji Restoration and the opening of Japan to exotic\n      new Western-style amusements further enhanced Asakusa's reputation as\n      Fun City. The first place in Japan to call itself a "bar" opened in\n      Asakusa in 1880 (and is still doing business); the first movie theater\n      opened here in 1903. Before long, the streets and alleys around the\n      temple were filled with music halls, burlesque theaters, cabarets,\n      gambling dens, and watering holes of every description.\n      Most of the temple quarter was firebombed to ashes in 1945,\n      but by 1958 the people of the area had raised enough money to rebuild\n      Sensoji and all of the important structures around it. So what if the\n      restoration was in earnest? The original is still
```

Token and PoS Tags:

```
Token and PoS Tags:

[[['', 'SPACE'], ['Asakusa', 'PROPN'], ['\n', 'SPACE'], ['Asakusa', 'PROPN'], ['is', 'AUX'], ['the', 'DET'], ['heart', 'NOUN'], ['of', 'ADP'], ['Shitamachi', 'PROPN'], [',', 'PUNCT'], ['the', 'DET'], ['quarter', 'NOUN'], ['\n', 'SPACE'], ['best', 'ADV'], ['-', 'PUNCT'], ['beloved', 'ADJ'], ['of', 'ADP'], ['that', 'DET'], ['fractious', 'ADJ'], [',', 'PUNCT'], ['gossipy', 'ADJ'], [',', 'PUNCT'], ['prodigal', 'ADJ'], ['population', 'NOUN'], ['called', 'VERB'], ['the', 'DET'], ['\n', 'SPACE'], ['Edokko', 'NOUN'], [',', 'PUNCT'], ['who', 'PRON'], ['trace', 'VERB'], ['their', 'DET'], ['"', 'PUNCT'], ['downtown', 'NOUN'], ['"', 'PUNCT'], ['roots', 'NOUN'], ['back', 'ADV'], ['at', 'ADV'], ['least', 'ADV'], ['three', 'NUM'], ['\n', 'SPACE'], ['generations', 'NOUN'], ['.', 'PUNCT'], ['Edokko', 'NOUN'], ['are', 'AUX'], ['suckers', 'NOUN'], ['for', 'ADP'], ['sentimentality', 'NOUN'], ['and', 'CCONJ'], ['for', 'ADP'], ['ninja', 'PROPN'], [':', 'PUNCT'], ['the', 'DET'], ['\n', 'SPACE'], ['web', 'NOUN'], ['of', 'ADP'], ['small', 'ADJ'], ['favors', 'NOUN'], ['and', 'CCONJ'], ['kindnesses', 'NOUN'], ['that', 'DET'], ['bind', 'VERB'], ['them', 'PRON'], ['together', 'ADV'], ['.', 'PUNCT'], ['Sneeze', 'VERB'], ['in', 'ADP'], ['\n', 'SPACE'], ['the', 'DET'], ['middle', 'NOUN'], ['of', 'ADP'], ['the', 'DET'], ['night', 'NOUN'], ['and', 'CCONJ'], ['your', 'DET'], ['Edokko', 'PROPN'], ['neighbor', 'NOUN'], ['will', 'VERB'], ['demand', 'VERB'], ['the', 'DET'], ['next', 'ADJ'], ['\n', 'SPACE'], ['morning', 'NOUN'], ['that', 'SCONJ'], ['you', 'PRON'], ['take', 'VERB'], ['better', 'ADJ'], ['care', 'NOUN'], ['of', 'ADP'], ['yourself', 'PRON'], [';', 'PUNCT'], ['stay', 'VERB'], ['home', 'ADV'], ['with', 'ADP'], ['a', 'DET'], ['fever', 'NOUN'], ['\n', 'SPACE'], ['and', 'CCONJ'], ['she', 'PRON'], ['will', 'VERB'], ['be', 'AUX'], ['over', 'ADV'], ['by', 'ADP'], ['noon', 'NOUN'], ['with', 'ADP'], ['a', 'DET'], ['bowl', 'NOUN'], ['of', 'ADP'], ['soup', 'NOUN'], ['.', 'PUNCT'], ['An', 'DET'], ['Edokko', 'PROPN'], ['craftsman', 'NOUN'], ['\n', 'SPACE'], ['would', 'VERB'], ['rather', 'ADV'], ['lose', 'VERB'], ['a', 'DET'], ['commission', 'NOUN'], ['than', 'SCONJ'], ['take', 'VERB'], ['any', 'DET'], ['guff', 'NOUN'], ['from', 'ADP'], ['a', 'DET'], ['customer', 'NOUN'], ['who', 'PRON'], ['\n', 'SPACE'], ['does', 'AUX'], ['n't', 'PART'], ['know', 'VERB'], ['good', 'ADJ'], ['work', 'NOUN'], ['when', 'ADV'], ['he', 'PRON'], ['sees', 'VERB'], ['it', 'PRON'], ['.', 'PUNCT'], ['Edokko', 'NOUN'], ['quarrel', 'NOUN'], ['in', 'ADP'], ['a', 'DET'], ['language', 'NOUN'], ['\n', 'SPACE'], ['all', 'DET'], ['their', 'DET'], ['own', 'ADJ'], [',', 'PUNCT'], ['an', 'DET'],
```

Beide Listen sind leider zu lang für einen Screenshot. Für vollständige Ergebnisse bitte das Programm ausführen.

Aufgabe 2.3.1 - PoS Tags zählen

```
Enter 1 for task 2.2 - Read in xml
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Enter 9 to finish
```

Please enter the number: 2

Task 2.3.1 Counted PoS Tags! Please wait!

```
{'SPACE': 825, 'PROPN': 2095, 'AUX': 1035, 'DET': 3203, 'NOUN': 5030, 'ADP': 3005,
'PUNCT': 3501, 'ADV': 1326, 'ADJ': 1781, 'VERB': 2721, 'PRON': 1362, 'NUM': 683, 'CCONJ':
825, 'SCONJ': 431, 'PART': 491, 'X': 30, 'SYM': 28, 'INTJ': 10}
```

Aufgabe 2.3.2 Tags aus XML zählen

```
Enter 1 for task 2.2 - Read in xml
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```

Please enter the number: 3

Task 2.3.2 - Qs Types :

```
[['places:', 1852], ['spatialentity', 1417], ['motions:', 1297], ['signal', 1240],
['qslinks:', 970], ['olinks', 244]]
```

Aufgabe 2.3.3 QS Link Typen

Please enter the number: 4

Task 2.3.3 - Qs Types

```
{'""NTPP""': 42, '""IN""': 586, '""EC""': 196, '""TPP""': 53, '""EQ""': 35, '""PO""': 12, '""OUT""': 3,
'""DC""': 41, '""': 2}
```

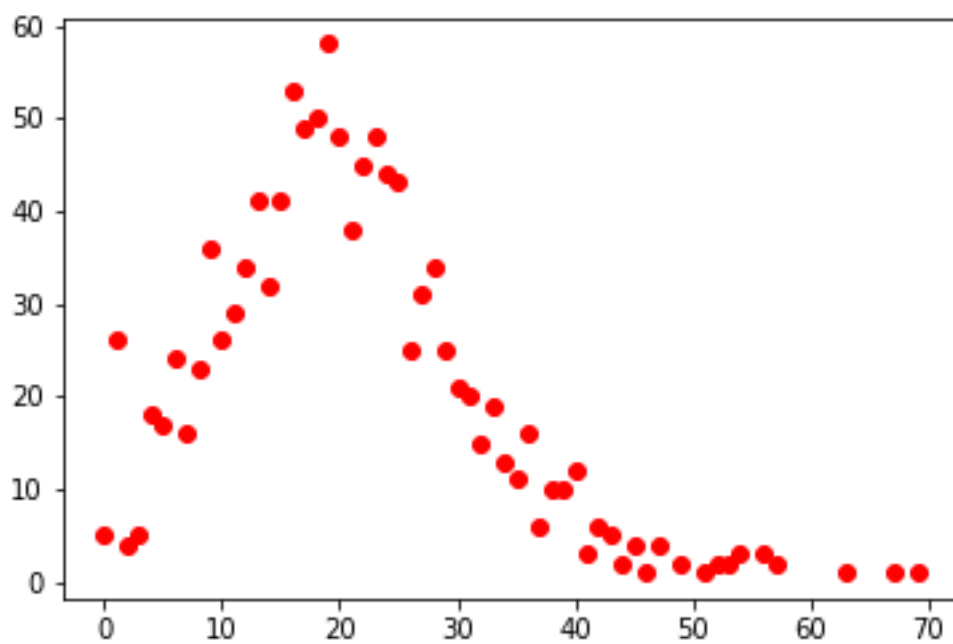
Aufgabe 2.3.4 Satzlänge + Grafik

Sentence lengths :

```
{29: 25, 19: 58, 40: 12, 24: 44, 18: 50, 36: 16, 15: 41, 41: 3, 17: 49, 11: 29, 20: 48,
28: 34, 25: 43, 34: 13, 22: 45, 13: 41, 30: 21, 14: 32, 21: 38, 38: 10, 12: 34, 26: 25,
16: 53, 23: 48, 27: 31, 37: 6, 31: 20, 9: 36, 10: 26, 3: 5, 6: 24, 33: 19, 46: 1, 32: 15,
43: 5, 44: 2, 1: 26, 2: 4, 47: 4, 45: 4, 7: 16, 39: 10, 8: 23, 0: 5, 4: 18, 5: 17, 42: 6,
35: 11, 57: 2, 54: 3, 56: 3, 67: 1, 69: 1, 51: 1, 49: 2, 52: 2, 53: 2, 63: 1}
```

The graph was Saved as 234.png

234.png



Aufgabe 2.3.5 – Spatial Signals Triggers

Please enter the number: 6

Task 2.3.5 - QS/OS spatial triggers

```
qs was triggered by:
{"houses": 7, "in": 210, "filled": 3, "on": 71, "where": 57, "with": 11,
"contain": 1, "adjacent": 1, "packed": 1, "At": 6, "surmounted": 1, "house": 1,
"inside": 4, "On": 4, "bordering": 1, "In": 21, "connects": 1, "around": 3,
"against": 1, "full": 5, "part": 1, "atop": 2, "to": 2, "beside": 1,
"through": 4, "at": 51, "of": 43, "far": 3, "away": 4, "behind": 1, "Along":
1, "covered": 4, "inhabited": 1, "apart": 1, "coiling": 1, "into": 1, "about":
1, "next": 10, "after": 1, "on": 3, "inside": 1, "in": 1, "along": 14, "up": 1,
"further": 1, "under": 2, "In": 1, "over": 2, "between": 4, "away": 2,
"outside": 2, "Everywhere": 1, "overlooking": 2, "including": 3, "stocked": 1,
"across": 2, "from": 3, "surrounded": 2, "out": 1, "contains": 1,
"surrounding": 3, "line": 1, "packed": 1, "afar": 1, "has": 2, "directly": 1,
"for": 1, "apart": 1, "up": 1, "Down": 1, "upon": 1, "covering": 1,
"restricted": 1}

os was triggered by:
{"around": 3, "south": 2, "on": 42, "south": 4, "to": 3, "facing": 1,
"West": 1, "South\xadeast": 1, "east": 3, "adjacent": 1, "surmounted": 1, "east":
2, "up": 4, "Across": 1, "behind": 3, "alongside": 1, "across": 1, "under": 3,
"below": 4, "beneath": 2, "west": 1, "north": 2, "Facing": 1, "next": 13,
"Southeast": 1, "atop": 2, "southwest": 1, "toward": 1, "beside": 1, "along":
14, "in": 4, "Along": 1, "covered": 4, "to": 3, "coiling": 1, "on": 5, "On":
2, "backwards": 1, "Down": 2, "In": 1, "over": 7, "between": 8, "northeast":
1, "north": 2, "of": 3, "neighboring": 1, "down": 4, "overlooking": 3,
"surrounded": 4, "above": 4, "surrounding": 3, "line": 1, "directly": 1,
"across": 1, "in": 2, "up": 1, "upstream": 1, "upon": 1, "overlook": 1}
```

Aufgabe 2.3.6 Most used movement Verbs

Please enter the number: 7

Task 2.3.6 - Most used movement verbs:

```
Number 1 of most used movement verbs is: went
Number 2 of most used movement verbs is: washed
Number 3 of most used movement verbs is: wandering
Number 4 of most used movement verbs is: wandered
Number 5 of most used movement verbs is: wander
```

Aufgabe 2.4

Leider hatte ich Probleme mit NetworkX. Ich habe viele Tutorials ausprobiert doch konnte die Kanten leider nicht korrekt eintragen. Deshalb gebe ich ebenfalls die Knoten und Kanten aus. Der Graph wurde leider nicht korrekt generiert.

Task 2.4 Graph

nodes for: bicyclesGraph.png are:

```
[[["pl2", ""], ["pl3", ""], ["pl5", ""], ["pl15", ""], ["pl21", ""],
["pl1", "Mexico"], ["pl24", "organization"], ["pl31", "town"], ["pl32",
"National"], ["pl34", "Mexico"], ["pl35", "U.S."], ["pl38", "institute"],
["pl10", "shacks"], ["pl40", "Venezuela"], ["pl11", "homes"], ["pl16",
"ruins"], ["pl46", "temple"], ["pl47", "museum"], ["pl48", "pyramids"],
["pl49", "Teotihuacan"], ["pl50", "here"], ["pl59", "capital"], ["pl20",
"place"], ["pl14", "school"], ["pl17", "Los"], ["pl7", ""], ["se8",
"vehicle"], ["se0", "I"], ["se9", "cars"], ["se10", "light"], ["se12",
"buses"], ["se13", "taxis"], ["se17", "team"], ["se1", "cloud"], ["se41",
"people"], ["se23", "cyclists"], ["se24", "they"], ["se25", "others"],
["se26", "man"], ["se42", "man"], ["se43", "infrastructure"], ["se45",
"woman"], ["se34", "descendents"], ["se35", "civilization"], ["se5",
"cars"], ["se14", ""], ["se16", ""]]]
```

edges for: bicyclesGraph.png are:

```
[[["cyclists", "roads", "EC"], ["lanes", "town", "IN"], ["infrastructure",
"town", "IN"], ["talked", "National", "IN"], ["met", "institute", "IN"],
["spent", "city", "IN"], ["pyramids", "Teotihuacan", "IN"], ["here",
"Mexico", "IN"], ["sides", "valley", "TPP"], ["sits", "cloud", "IN"],
["stayed", "city", "IN"], ["stayed", "city", "IN"], ["biked", "city",
"IN"], ["visited", "city", "IN"], ["interviewed", "city", "IN"],
["biking", "Mexico", "IN"], ["bicycle", "place", "IN"], ["vehicle",
"road", "EC"], ["week", "city", "IN"], ["works", "organization", "IN"],
["lanes", "city", "IN"], ["built", "", "EC"], ["", "Popocatepetl",
"EC"], ["", "Iztacihuatl", "EC"], ["stopped", "light", "DC"], ["", "",
"EC"], ["", "", "EC"], [{"cyclists", "roads", "ABOVE"}, {"lane",
"rows", "BETWEEN"}, {"Popocatepetl", "road", "ACROSS"}, {"vehicle", "road",
"ABOVE"}, {"built", "", "ABOVE"}, {"Popocatepetl", "", "ACROSS"}, {"",
"", "ACROSS"}]]
```

Saved as: bicyclesGraph.png


```

nodes for: pradoGraph.png are:
[[["p126", "",], ["p149", "Córdoba"], ["p150", "Seville"], ["p151",
"south"], ["p155", "Real"], ["p157", "c/"], ["p162", "space"], ["p166",
"lawns"], ["p167", "gardens"], ["p168", "place"], ["p169", "lake"],
["p170", "center"], ["p172", "Palacio"], ["p174", "solarium"], ["p175",
"space"], ["p179", "corner"], ["p182", "Plaza"], ["p184", "barrios"],
["p14", "Zaragoza"], ["p15", "Madrid"], ["p17", "Spain"], ["p18",
"scene"], ["p19", "rooms"], ["p111", "floor"], ["p112", "floor"],
["p114", "Crete"], ["p115", "Italy"], ["p116", "Toledo"], ["p123",
"Paris"], ["p10", "here"], ["p124", "Venice"], ["p125", "rooms"],
["p127", "annex"], ["p130", "hill"], ["p131", "Museo"], ["p133",
"Palacio"], ["p185", "anchor"], ["p186", "trio"], ["p135", "landmark"],
["p136", "old"], ["p137", "Hospital"], ["p138", "c/"], ["p140", "Centro"],
["p142", "Museum"], ["p143", "New"], ["p146", "Atocha"], ["p148", "garden"],
["p11", "Elsewhere"], [["se2", "portraits"], ["se43", "studies"], ["se34",
"kids"], ["se35", "lovers"], ["se36", "displays"], ["se37", "Puerta"],
["se41", "warrior-angels"], ["se3", "Francisco"], ["se10", "black"], ["se13",
"masterpieces"], ["se17", "paintings"], ["se20", "collection"], ["se0",
"canvas"], ["se22", "collection"], ["se24", "collections"], ["se27", "Guer
\xadnica"], ["se29", "paintings"], ["se30", "collection"], ["se32", "you"]]]

```

```

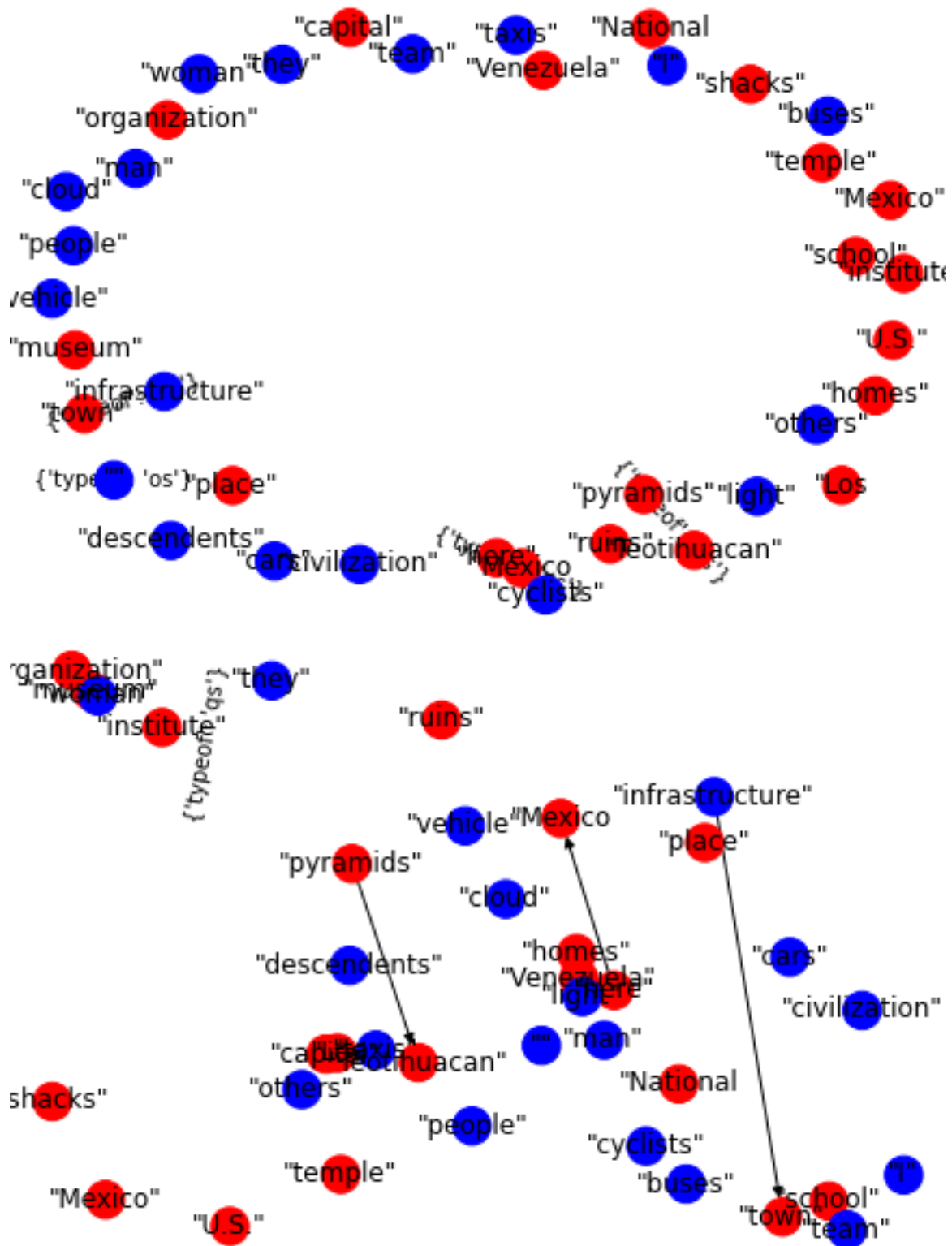
edges for: pradoGraph.png are:
[[["canvas", "here", "NTPP"], ["portraits", "Elsewhere", "IN"],
["studies", "Elsewhere", "IN"], ["collected", "Prado", "IN"], ["rooms",
"Prado", "IN"], ["born", "Crete", "NTPP"], ["worked", "Toledo", "IN"],
["spent", "Italy", "IN"], ["masterpieces", "Prado", "IN"], ["paintings",
"Prado", "IN"], ["collection", "Prado", "NTPP"], ["hill", "calle", "PO"],
["collection", "annex", "NTPP"], ["housed", "Palacio", "IN"], ["one",
"palace", "IN"], ["landmark", "old", "IN"], ["Centro", "which", "EQ"],
["Held", "Museum", "IN"], ["Museum", "New", "IN"], ["paintings", "center",
"NTPP"], ["garden", "affair", "NTPP"], ["Hospital", "c/", "IN"], ["Real",
"c/", "IN"], ["worked", "here", "IN"], ["lawns", "it", "IN"],
["gardens", "it", "IN"], ["promenades", "it", "IN"], ["outing", "place",
"EQ"], ["lake", "center", "IN"], ["center", "park", "NTPP"],
["exhibitions", "solarium", "IN"], ["space", "Prado", "EC"], ["displays",
"space", "IN"], ["Puerta", "corner", "TPP"], ["corner", "Retiro", "TPP"],
["warrior-angels", "arch", "EC"], ["edge", "Madrid", "TPP"], ["stands",
"which", "IN"], ["bedlam", "Plaza", "EQ"], [["Museo", "Paseo", "ACROSS"],
["annex", "hill", "UP"], ["Atocha", "", "ACROSS"], ["display", "",
"BESIDE"], ["exhibiting", "glass", "BEHIND"], ["Real", "station",
"SOUTHEAST"], ["space", "Museo", "EAST"], ["space", "Prado", "BESIDE"],
["warrior-angels", "arch", "ABOVE"], ["barrios", "Plaza", "EAST"]]]

```

Saved as: pradoGraph.png

Versuche für den Graphen :

Bicycles :



Prado :

