PS 14 — Rania 3.28.2025

35

```
In[76]:= (*35.1 Use Interpreter to find the location of the Eiffel Tower.*)
       Interpreter["Location"]["Eiffel Tower"]
Out[76]=
      GeoPosition[{48.8583, 2.29444}]
In[77]:= (*35.2 Use Interpreter to find a university referred to as "U of T".*)
       Interpreter["University"]["U of T"]
Out[77]=
       University of Toronto
In[78]:= (*35.3 Use Interpreter to find the chemicals referred to as C2H4,
       C2H6 and C3H8.*)
       Interpreter["Chemical"][{"C2H4", "C2H6", "C3H8"}]
Out[78]=
        ethylene
                    ethane , propane
In[79]:= (*35.4 Use Interpreter to interpret the date "20140108".*)
In[80]:=
      Interpreter["Date"]["20140108"]
Out[80]=
       Wed 8 Jan 2014
In[81]:= (*35.5 Find universities that can be referred to as "U of X",
      where X is any letter of the alphabet*)
       DeleteCases[Interpreter["University"][
         StringJoin["U of ", #] & /@ ToUpperCase[Alphabet[]]], _Failure]
       (*did research on DeleteCases vs DeleteMissing*)
Out[81]=
        University of Birjand, University of California-Berkeley, The University of Edinburgh,
         University of Georgia, University of Houston, University of Illinois at Urbana-Champaign,
         University of Lethbridge , (University of Michigan-Ann Arbor), (University of Phoenix-Online Campus),
         University of Regina , University of Saskatchewan , University of Toronto
```

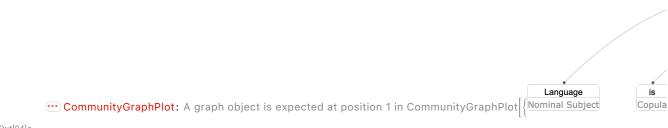
```
IN[82]:= (*35.6Find which US state capital names can be interpreted as movie titles -
        use CommonName to get the string versions of entity names*)
      DeleteCases | Interpreter["Movie"] /@
         CommonName /@ | iii all US states with District of Columbia ADMINISTRATIVE DIVISIONS
                                                                        capital city , _Failure
Out[82]=
                 Honolulu, Topeka, Annapolis, Lincoln, Santa Fe, Expedition: Bismarck,
                   Providence, Nashville, Olympia, Madison, Cheyenne
In[83]:= (*35.7 Find cities that can be referred
        to by permutations of the letters a,i,l and m.*)
In[84]:= DeleteCases[
       Interpreter["City"] /@ StringJoin /@ Permutations[{"a", "i", "l", "m"}], _Failure]
Out[84]=
        (Alim), (Amli), (Balm), (Ilam), (Lami), (Lima), (Lamai), (Mali), (Milah), (Mali)
In[85]:= (*35.8 Make a word cloud of country
        names in the Wikipedia article on "gunpowder".*)
In[86]:= WordCloud[TextCases[WikipediaData["gunpowder"], "Country"]]
      (*not sure why it failed when it worked in the chapter*)
Out[86]=
                          United Kingdom
      Germany
            Indiar
                            Syria SpaniardsUK
                                                Japan
           Australia
            Persian
                                                 Italy
                     Persia
            British
                                                 Bengal
              Greek
                      Jnited States
```

In[87]:= (*35.9 Find all nouns in "She sells seashells by the sea shore."*)

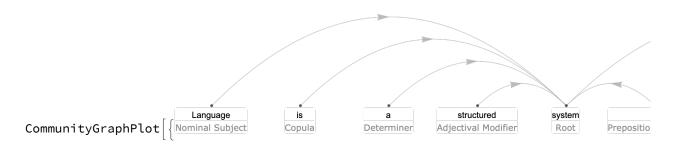
```
In[88]:= TextCases["She sells seashells by the sea shore", "Noun"]
Out[88]=
       {seashells, sea, shore}
In[89]:= (*35.10 Use TextCases to find the number of nouns, verbs and adjectives
        in the first 1000 characters of the Wikipedia article on computers.*)
In[90]:= Length[TextCases[StringJoin[Characters[WikipediaData["computers"]] [[1;; 1000]]],
           #]] & /@ {"Noun", "Verb", "Adjective"}
Out[90]=
      {54, 23, 20}
In[91]:= (*35.11 Find the grammatical structure of the
       first sentence of the Wikipedia article about computers.*)
In[92]:= TextStructure[TextSentences[WikipediaData["computers"]][1]]]
Out[92]=
                                        machine
          Α
                computer
                           is
                                                     that
                                                                   be
                                                              can
                                                                        programmed
                                                                                       to
                                                                                              automa
       Determiner
                          Verb
                               Determiner
                                          Noun
                                                  Wh-Determiner
                                                              Verb
                                                                   Verb
                                                                            Verb
                                                                                     Preposition
           Noun Phrase
                                   Noun Phrase
                                                  Wh-Noun Phrase
                                                                                                Adve
In[93]:= (*35.12Find the 10 most common nouns
       in ExampleData[{"Text","AliceInWonderland"}]*)
      Reverse[
          Sort[Counts[TextCases[ExampleData[{"Text", "AliceInWonderland"}], "Noun"]]]][1
          ;; 10] // Keys
Out[93]=
       {Rabbit, door, voice, time, Mouse, way, moment, thing, head, garden}
```

In[94]:= (*35.13 Make a community graph plot of the graph representation of the text
 structure of the first sentence of the Wikipedia article about language.*)
CommunityGraphPlot[

TextStructure[TextSentences[WikipediaData["language"]], "DependencyGraphs"][1]]
(*so confused why the CommunityGraphPlot is not working*)



Out[94]=



36

```
In[97]:= (*36.1 Create a website that displays a new random
       number up to 1000 at size 100 every time it is visited.*)
      CloudPublish[Delayed[Style[RandomInteger[1000], 1000]]]
Out[97]=
      CloudObject|https://www.wolframcloud.com/obj/b066fbbc-8332-44d5-ab66-352698a073e3|
ln[98]:= (*36.2 Publish a form on the web that takes a number x and returns x^x + y
      CloudPublish[FormFunction[{"x" → "Number"}, #x^#x &]]
Out[98]=
      CloudObject[https://www.wolframcloud.com/obj/a1e72ad6-3270-4982-8ee8-42d672016b73]
ln[99]:= (*36.3 Publish a form on the web that takes numbers x and y and computes x^y*)
      CloudPublish[FormFunction[{"x" → "Number", "y" → "Number"}, #x^#y &]]
Out[99]=
      CloudObject|https://www.wolframcloud.com/obj/285c2ddf-0ef0-4ce9-8e98-9aa6c8d08eea
In[100]:=
      (*36.4 Publish a form on the web that takes the topic
       of a Wikipedia page and gives a word cloud for the page*)
      CloudPublish[FormFunction[{"topic" → "String"}, WordCloud[WikipediaData[#topic]] &]]
Out[100]=
      CloudObject[https://www.wolframcloud.com/obj/a1c93239-9f04-41c0-8b5d-df998e85d1cc]
In[101]:=
      (*36.5 Publish a form page on the web that takes a string
       and repeatedly gives a reversed version at size 50*)CloudPublish[
       FormFunction[{"String" → "String"}, Style[StringReverse[#String], 50] &]]
Out[101]=
      CloudObject[https://www.wolframcloud.com/obj/06f5f8b0-4c96-45c7-a133-185a1b7e7e72]
In[102]:=
      (*36.6 Publish a form page on the web that takes an integer n and repeatedly
       generates a picture of a polygon with a random color and n sides*)CloudPublish[
       FormPage[{"n" → "Integer"}, Graphics[{RandomColor[], RegularPolygon[#n]}] &]]
Out[102]=
      CloudObject|https://www.wolframcloud.com/obj/71484956-6bfa-4fa5-bb0e-3d6fa31cf6ed
In[103]:=
      (*36.7 Publish a form page that takes a location and a number n and
       repeatedly gives a map of the n nearest volcanoes to the location*)
      CloudPublish[FormPage[{"location" → "Location", "n" → "Number"},
        GeoListPlot[Nearest[EntityList["Volcano"], #location, #n]] &]]
Out[103]=
      CloudObject https://www.wolframcloud.com/obj/03e1f956-1c01-413b-b2a8-0dcbf9de4812
```