

# PS 14 — Rania 3.28.2025

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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]:= (*35.6 Find 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 /@ all US states with District of Columbia ADMINISTRATIVE DIVISIONS [capital city], _Failure]
```

```
Out[82]=
```

```
{ Phoenix , Honolulu , Topeka , Annapolis , Lincoln , Santa Fe , Expedition: Bismarck ,
Columbus , 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]=
```



```
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]:=
```

<u>A</u>	<u>computer</u>	<u>is</u>	<u>a</u>	<u>machine</u>	<u>that</u>	<u>can</u>	<u>be</u>	<u>programmed</u>	<u>to</u>	<u>autom:</u>
Determiner	Noun	Verb	Determiner	Noun	Wh-Determiner	Verb	Verb	Verb	Preposition	A
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]=

CommunityGraphPlot: A graph object is expected at position 1 in CommunityGraphPlot[  
 Language  
 Nominal Subject  
 is  
 Copula

CommunityGraphPlot[  
 Language  
 Nominal Subject  
 is  
 Copula  
 a  
 Determiner  
 structured  
 Adjectival Modifier  
 system  
 Root  
 Prepositio

```
In[95]:= (*35.14 Make a list of numbers of nouns,verbs,
adjectives and adverbs found by WordList in English.*)

In[96]:= Length[WordList[#]] & /@ {"Noun", "Verb", "Adjective", "Adverb"}

Out[96]=
{24 493, 6503, 11 392, 3120}
```

## 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]

In[98]:= (*36.2 Publish a form on the web that takes a number x and returns x^x *)
CloudPublish[FormFunction[{"x" → "Number"}, #x^#x &]]

Out[98]= CloudObject[https://www.wolframcloud.com/obj/a1e72ad6-3270-4982-8ee8-42d672016b73]

In[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]

```