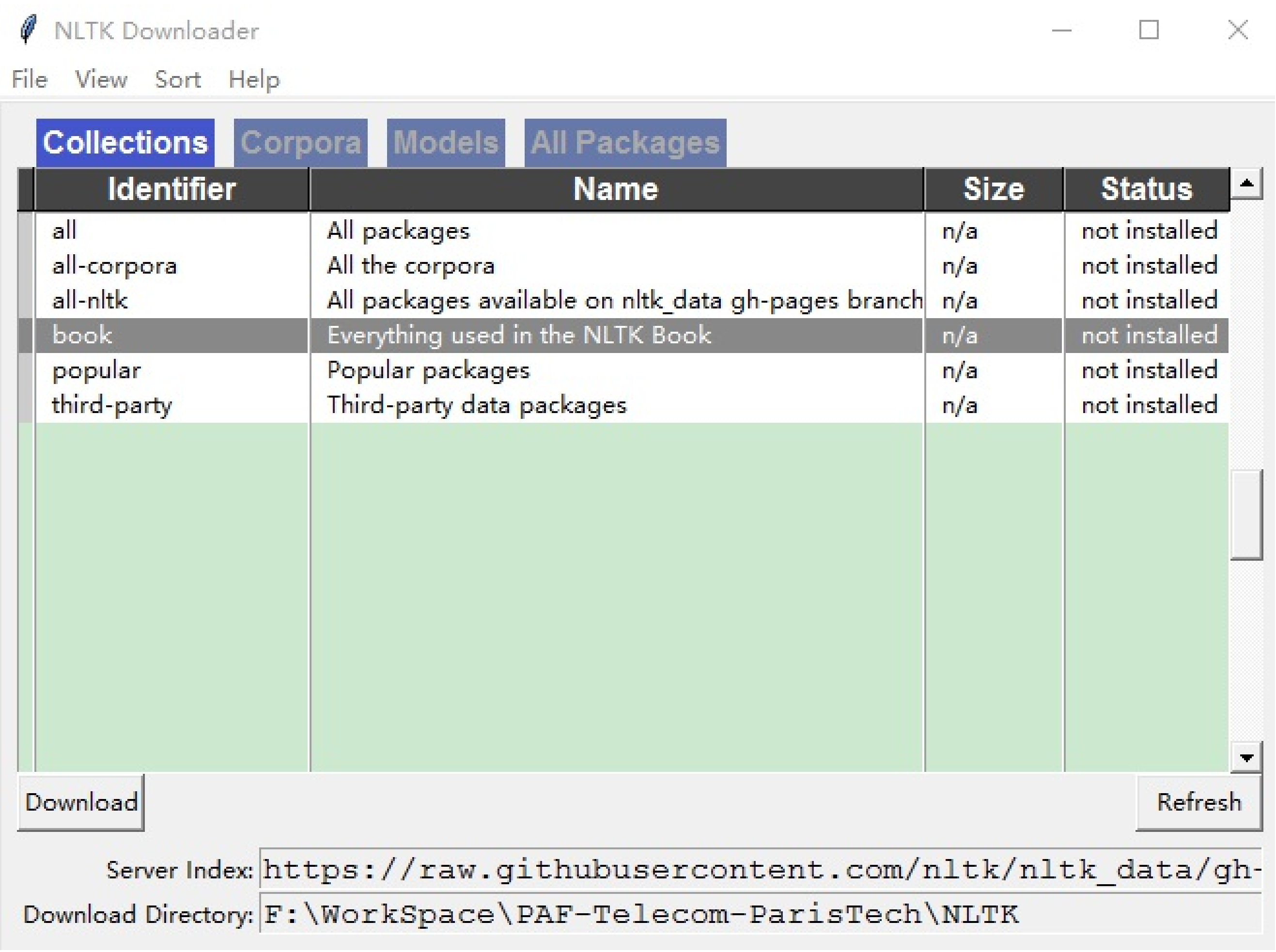
Chapiter_1 Language Processing and Python

Getting Started with NLTK

```
import nltk
nltk.download() # Downloading the NLTK Book Collection
```

Here what we see



Identifier	Name	Size	Status
all	All packages	n/a	not installed
all-corpora	All the corpora	n/a	not installed
all-nltk	All packages available on nltk_data gh-pages branch	n/a	not installed
book	Everything used in the NLTK Book	n/a	not installed
popular	Popular packages	n/a	not installed
third-party	Third-party data packages	n/a	not installed

Server Index: https://raw.githubusercontent.com/nltk/nltk_data/gh-

Download Directory: F:\WorkSpace\PAF-Telecom-ParisTech\NLTK

```
from nltk.book import * # load some texts for us to explore from book module
```

```
*** Introductory Examples for the NLTK Book ***
Loading text1, ..., text9 and sent1, ..., sent9
Type the name of the text or sentence to view it.
Type: 'texts()' or 'sents()' to list the materials.
text1: Moby Dick by Herman Melville 1851
text2: Sense and Sensibility by Jane Austen 1811
text3: The Book of Genesis
text4: Inaugural Address Corpus
text5: Chat Corpus
text6: Monty Python and the Holy Grail
text7: Wall Street Journal
text8: Personals Corpus
text9: The Man Who Was Thursday by G . K . Chesterton 1908
```

```
text1
```

```
<Text: Moby Dick by Herman Melville 1851>
```

Searching Text

- **concordance** shows us every occurrence of a given word, together with some context.

```
text1.concordance('monstrous')
```

```
Displaying 11 of 11 matches:
ong the former , one was of a most monstrous size . ... This came towards us ,
ON OF THE PSALMS . " Touching that monstrous bulk of the whale or ork we have r
ll over with a heathenish array of monstrous clubs and spears . Some were thick
d as you gazed , and wondered what monstrous cannibal and savage could ever hav
that has survived the flood ; most monstrous and most mountainous ! That Himmal
they might scout at Moby Dick as a monstrous fable , or still worse and more de
th of Radney .'" CHAPTER 55 Of the Monstrous Pictures of Whales . I shall ere l
ing Scenes . In connexion with the monstrous pictures of whales , I am strongly
ere to enter upon those still more monstrous stories of them which are to be fo
ght have been rummaged out of this monstrous cabinet there is no telling . But
of Whale - Bones ; for Whales of a monstrous size are oftentimes cast up dead u
```

- **similar** shows what other words appear in a similar range of contexts

```
text2.similar('monstrous')
```

```
very heartily so exceedingly a as great amazingly good vast sweet
extremely remarkably
```

- **common_contexts** allows us to examine the contexts shared by two or more words

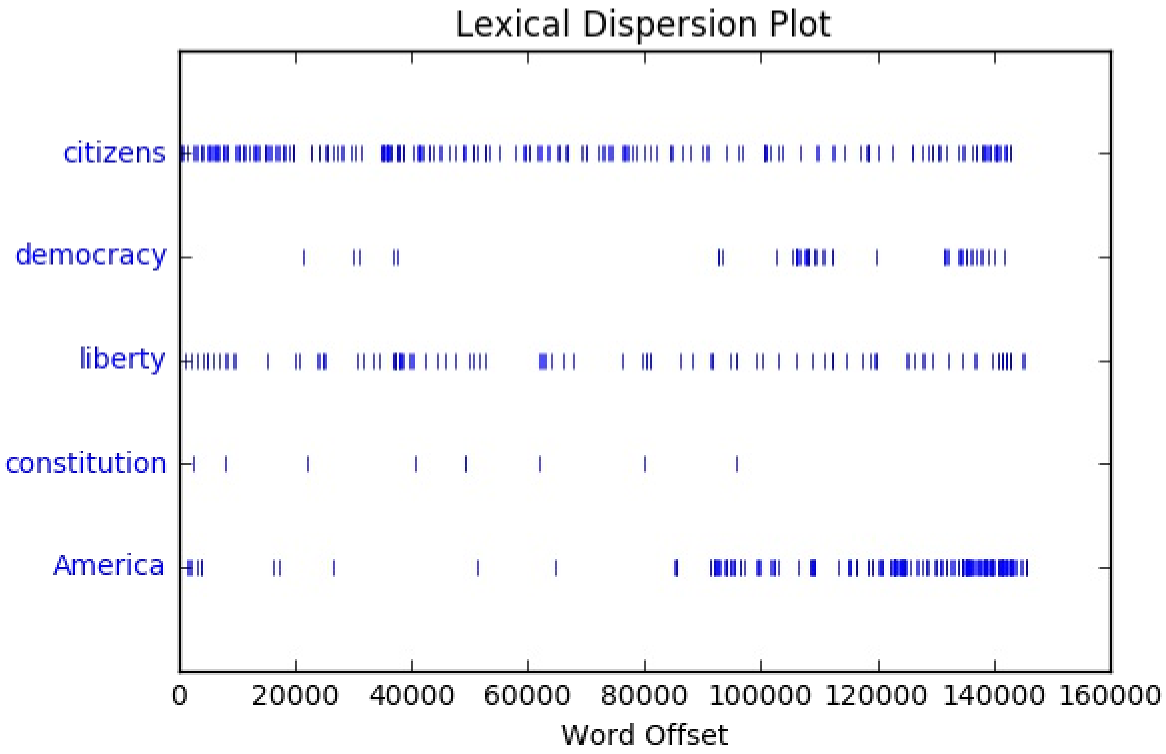
```
text2.common_contexts(['monstrous', 'very'])
```

```
be_glad a_pretty am_glad is_pretty a_lucky
```

- **dispersion_plot** determines the spatial location of a word in the text

for frequency of word usage through time, look at here

```
text4.dispersion_plot(["citizens", "democracy", "liberty", "constitution", "America"])
```



Counting Vocabulary

Use the term **len** to get the length of text.

```
len(text3)
```

```
44764
```

So it has 44,764 words and punctuation symbols, or "tokens".

Token is the technical name for a sequence of characters that we want to treat as a group.

Word type is the word considered as a unique item of vocabulary. If what we find includes punctuation symbols, then we will generally call these unique items *types* instead of *word types*.

```
len(set(text3)) # Use sorted(set(text3)) to see all types
```

```
2789
```

```
len(set(text3)) / len(text3) # measure of the lexical richness of the text
```

```
0.06230453042623537
```

```
text3.count("smote") # how often a word occurs in a text
```

```
5
```