

Homework #4

Due: Thursday, March 8, 2018 at 11:59 p.m.

Points: 100

Please turn in your answer for this homework assignment on Canvas under Homework #4 in Assignments.

This exercise has you query the PubMed database for a list of publications related to a keyword. Although we won't do it here, the list of publication numbers you get back can then be turned into a list of papers with a second query to the PubMed database.

To access the PubMed database, go to the URL below, replacing *keyword* with the keyword you want to search for, and *num* the number of publications you would like returned:

```
http://eutils.ncbi.nlm.nih.gov/entrez/eutils/esearch.fcgi?  
db=pubmed&retmode=json&retmax=num&sort=relevance&term=keyword
```

with no spaces and all on a single line.

So, for example, to find the 20 publications most relevant to “fever”, the URL would be:

```
http://eutils.ncbi.nlm.nih.gov/entrez/eutils/esearch.fcgi?  
db=pubmed&retmode=json&retmax=20&sort=relevance&term=fever
```

with no spaces and all on a single line.

When you read the contents of this web page, it is in the JSON format. You can turn this into a dictionary easily using the module `json`. The method `json.loads(contents)`, where `contents` is the contents of the web page, returns a dictionary with one entry, the key of which is “`esearchresults`”. The associated value is another dictionary. The part you want is a list of the publication numbers. The key is “`idlist`” and the value is a list of the numbers.

You are to print the numbers of that list on a single line, with commas between them (no spaces). So, for the above, your output would look like this:

```
29078933,29092992,28822610,27822946,28377245,28747169,28187992,28106314,28390959,27995553,  
28640776,28449675,27992852,28438740,28223176,29049070,28863031,28233624,28097438,27240113
```

but all on a single line. Note your numbers might differ from these because more relevant publications may be found.

Call this program “`pubmed.py`” when you submit it.