2/15/22, 3:52 AM Lect-09.html

Lecture 9 - Lists and Dictionaries

List Example

```
1: def readNameList(fn):
 2: f = open(fn,"r")
       if f == None:
           print ( f"Invalid file {fn} - failed to open" )
 5:
           return None
    dt = f.readlines()
 6:
 7:
       f.close()
       for i in range (len(dt)):
8:
9:
           s = dt[i].rstrip()
10:
           dt[i] = s
       return dt
11:
12:
13: phone_list = readNameList("50000phone.csv")
15: print ( "Enter a Name to Lookup" )
16: lookFor = input()
17: found = False
18: for i in range(len(phone_list)):
       if lookFor in phone_list[i]:
20:
           found = True
           print ( "Found {}".format(phone_list[i]) )
21:
22: if not found:
       print ( "no names found" )
```

2/15/22, 3:52 AM Lect-09.html

Dictionary

A dictionary is an association between a "key" value and a set of data that is efficient for looking thins up by the key.

let's do an "age" one...

```
>>> dd = {}
>>> dd["bob"] = 22
>>> dd["jane"] = 31
>>> dd["marry"] = 18
>>>
>>> dd["bob"]
>>> dd["jane"]
```

Now changing our phone search to use a dictionary:

2/15/22, 3:52 AM Lect-09.html

Letter Paris

Paris of letters are the "phonetic" parts in English. Single letters do not make most sounds in English. Letter Paris do.

Let's build a program that counts the occurrences of pairs.

```
1: import readNameList
 2:
 3: def main():
 4:
        print ( "Enter File Name\n=> ", end="" )
 5:
        fn = input()
 6:
        # read in file to a list of lines
 7:
        data = readNameList.readFileIntoList(fn)
 8:
 9:
10:
        letter_pair = {}
11:
12:
        for line in data:
13:
            # Split line up into a set of words
14:
15:
            words = line.split()
16:
17:
            for w in words:
                for i in range(len(w)-1):
18:
19:
                    pair = w[i:i+2]
                    pair = pair.lower()
20:
21:
                    if pair in letter_pair:
22:
                         letter_pair[pair] = letter_pair[pair] + 1
23:
24:
                        letter_pair[pair] = 1
25:
26:
27:
        # print ( "Count of Paris: {}".format(letter_pair) )
        print ( "Count of Paris:" )
28:
29:
        for p in letter_pair:
30:
            print ( "{}: {}".format( p, letter_pair[p] ) )
31:
32: main()
```

Copyright

Copyright © University of Wyoming, 2021.