12.8 LAB: Words in a range (lists)

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[edit**Edit lab**](https://learn.zybooks.com/zybook/MTSACCISP71ZakiFall2020/chapter/12/section/8/edit)noteNote

Write a program that first reads in the name of an input file, followed by two strings representing the lower and upper bounds of a search range. The file should be read using the file.readlines() method. The input file contains a list of alphabetical, ten-letter strings, each on a separate line. Your program should output all strings from the list that are within that range (inclusive of the bounds).

Ex: If the input is:

input1.txt

ammoniated

millennium

and the contents of input1.txt are:

aspiration

classified

federation

graduation

millennium

philosophy

quadratics

transcript

wilderness

zoologists

the output is:

aspiration

classified

federation

graduation

millennium

Notes:

* There is a newline at the end of the output.
* **input1.txt** is available to download.
* In the tests, the first word input always comes alphabetically before the second word input.

Solution:

file\_name = input()

bound\_1 = input()

bound\_2 = input()

user\_file = open(str(file\_name))

output\_list = user\_file.readlines()

for x in output\_list:

x = x.strip('\n')

if x >= bound\_1 and x <= bound\_2:

print(x)

user\_file.close()

# 12.10 LAB: Sorting TV Shows (dictionaries and lists)

Visible to students

[edit**Edit lab**](https://learn.zybooks.com/zybook/MTSACCISP71ZakiFall2020/chapter/12/section/10/edit)noteNote

Write a program that first reads in the name of an input file and then reads the input file using the file.readlines() method. The input file contains an unsorted list of number of seasons followed by the corresponding TV show. Your program should put the contents of the input file into a dictionary where the number of seasons are the keys, and a list of TV shows are the values (since multiple shows could have the same number of seasons).

Sort the dictionary by key (least to greatest) and output the results to a file named **output\_keys.txt**, separating multiple TV shows associated with the same key with a semicolon (**;**). Next, sort the dictionary by values (alphabetical order), and output the results to a file named **output\_titles.txt**.

Ex: If the input is:

file1.txt

and the contents of file1.txt are:

20

Gunsmoke

30

The Simpsons

10

Will & Grace

14

Dallas

20

Law & Order

12

Murder, She Wrote

the file output\_keys.txt should contain:

10: Will & Grace

12: Murder, She Wrote

14: Dallas

20: Gunsmoke; Law & Order

30: The Simpsons

and the file output\_titles.txt should contain:

Dallas

Gunsmoke

Law & Order

Murder, She Wrote

The Simpsons

Will & Grace

Note: There is a newline at the end of each output file, and **file1.txt** is available to download.

Solution:

file\_name = input()

user\_file = open(str(file\_name))

output\_list = user\_file.readlines()

my\_dict = {}

show\_list = []

show\_list\_split = []

# Starting from first item in list, add every other item in list as a key

# and every value inbetween is the value associated with the preceeding key.

# If one key with multiple values, append to list

for index in range(len(output\_list)):

temp\_list = []

list\_object = output\_list[index].strip('\n')

if (index + 1 < len(output\_list) and (index % 2 == 0)):

if int(list\_object) in my\_dict:

my\_dict[int(list\_object)].append(output\_list[index + 1].strip('\n'))

else:

temp\_list.append(output\_list[index + 1].strip('\n'))

my\_dict[int(list\_object)] = temp\_list

# Sort by keys (years) from least amount of years to greatest amount of years

my\_dict\_sorted\_by\_keys = dict(sorted(my\_dict.items()))

# Change from dictionary to list

for x in my\_dict.keys():

show\_list.append(my\_dict[x])

# Split the list of lists into a single list

for x in show\_list:

for i in x:

show\_list\_split.append(i)

# Sort list and output

show\_list\_split = sorted(show\_list\_split)

f = open('output\_keys.txt', 'w') # Open file

for key, value in my\_dict\_sorted\_by\_keys.items():

f.write(str(key) + ": ")

for item in value[:-1]:

f.write(item + "; ")

f.write(value[-1])

f.write("\n")

f.close() # Close the file

f = open('output\_titles.txt', 'w')

for item in show\_list\_split:

f.write(item + '\n')

f.close()