New York University
School of Continuing and Professional Studies
Division of Programs in Information Technology

Introduction to Python
Homework, Session 9

9.1 Create a module called filelib.py that has three functions:

def getlines(filename, newlines=False): takes a filename, opens it and returns the lines from the file, each stripped of any newline at the end. If newlines=True, the newlines will not be removed. Remember to close the file before returning.

def gettext(filename): takes a filename, opens it and returns a string that contains the text of the file.

def getfields(filename, delimiter=None): takes a filename, opens it and returns a list of lists in which each list is a line from the file, split on the delimiter (for example, the module will split on a comma if the comma is passed as delimiter). If delimiter is not passed, the function splits on whitespace (i.e., the default behavior of split()). (**Also make special note** that passing **None** into split() also splits on whitespace.) Make sure that the final element of each line (or the line itself) is strip()ped. If a delimeter is passed that cannot be found in any one of the lines, raise a ValueError exception with a message indicating the problem.

Save your functions in a file called filelib.py and save it in a folder, for example your python_scripts directory.

Now create a test Python script with the following code:

```
#!/usr/bin/env python

import filelib

data_file = '../python_data/student_db.txt'

lines = filelib.getlines(data_file, newlines=True)
print(len(lines))

text = filelib.gettext(data_file)
print(len(text))


# when the below line is uncommented, your module should raise a ValueError
# exception and, in the raised error, explain that the delimiter does not
# appear to be in one of the line of the file.  See the slide on raise for
# details on raising an exception with a message.

#list_of_lists = filelib.getfields(data_file, delimiter='baddelimeter')


list_of_lists = filelib.getfields(data_file, delimiter=':')
print(list_of_lists)
```

Expected Output:

```
8
333
[['id','address','city','state','zip'], ['jk43','23 Marfield Lane',
'Plainview','NY','10023'], ['ZXE99','315 W. 115th Street, Apt. 11B',
'New York','NY','10027'], ['jab44','23 Rivington Street', Apt. 3R',
'New York','NY','10002'], ['ak9','234 Main Street','Philadelphia',
'PA','08990'], ['ap172','19 Boxer Rd.','New York','NY','10005'],
['JB23','115 Karas Dr.','Jersey City','NJ','07127'], ['jb29','119
Xylon Dr.','Jersey City','NJ','07127']]
```