

Python Dictionaries

Create a program called “first_lines.py” that prints the first line of the contents of each file in a directory along with the source file name, e.g., like the index of a collection of poems. The program must do the following:

- Print a “usage” statement if given exactly no arguments and exit *with an error*
- Accept one or more positional arguments which should be directory names (hint: use `nargs='+'` to `argparse` to get a list instead of a single value)
- Iterate over the arguments; if an argument is not a directory, print “” is not a directory’ to *STDERR* and skip to the next
- Print the directory name, then show a **sorted** list of first lines of the files contained in that directory, ellipses, then the file name
- Accept a `-w|--width` integer option that is the width of the space to print (default 50)

Expected behavior:

```
$ ./first_lines.py
usage: first_lines.py [-h] [-w int] DIR [DIR ...]
first_lines.py: error: the following arguments are required: DIR
$ ./first_lines.py foo
"foo" is not a directory
$ ./first_lines.py blake/
```

```
Cruelty has a human heart, ..... 4.txt
I dreamt a dream! What can it mean? ..... 5.txt
I was angry with my friend: ..... 1.txt
Never seek to tell thy love, ..... 6.txt
Sweet dreams form a shade, ..... 7.txt
To see a World in a Grain of Sand ..... 3.txt
Tyger! Tyger! burning bright, ..... 2.txt
$ ./first_lines.py -w 55 dickinson foo blake
dickinson
'T is so much joy! 'T is so much joy! ..... 4.txt
A precious, mouldering pleasure 't is ..... 10.txt
A wounded deer leaps highest, ..... 8.txt
Glee! The great storm is over! ..... 5.txt
I know some lonely houses off the road ..... 15.txt
If I can stop one heart from breaking, ..... 6.txt
Much madness is divinest sense ..... 11.txt
Our share of night to bear, ..... 2.txt
Some things that fly there be, -- ..... 14.txt
Soul, wilt thou toss again? ..... 3.txt
Success is counted sweetest ..... 1.txt
The heart asks pleasure first, ..... 9.txt
```

```

The soul selects her own society, ..... 13.txt
Within my reach! ..... 7.txt
"foo" is not a directory
blake
Cruelty has a human heart, ..... 4.txt
I dreamt a dream! What can it mean? ..... 5.txt
I was angry with my friend: ..... 1.txt
Never seek to tell thy love, ..... 6.txt
Sweet dreams form a shade, ..... 7.txt
To see a World in a Grain of Sand ..... 3.txt
Tyger! Tyger! burning bright, ..... 2.txt

```

Tests

A passing test suite looks like:

```

$ make test
python3 -m pytest -v test.py
===== test session starts =====
platform darwin -- Python 3.6.8, pytest-4.2.0, py-1.7.0, pluggy-0.8.1 -- /anaconda3/bin/python
cachedir: .pytest_cache
rootdir: /Users/kyclark/work/biosys-analytics/assignments/06-python-first-lines, inifile:
plugins: remotedata-0.3.1, openfiles-0.3.2, doctestplus-0.2.0, arraydiff-0.3
collected 5 items

test.py::test_usage PASSED
test.py::test_bad_input PASSED
test.py::test_good_input1 PASSED
test.py::test_good_input2 PASSED
test.py::test_good_input3 PASSED

===== 5 passed in 0.31 seconds =====

```