

Homework #1**Due: 9/29**

1. [50 points]

Write a Python module `igpay.py` that contains a function `igpay()` that will return the translation of its (string) argument, assumed to be a word, into Pig Latin.

The rules of Pig Latin are:

- (a) Vowels are "a", "e", "i", "o" and "u". All other letters are consonants. "y" and "w" count as consonants in this case (e.g.: `igpay("yes")` returns "esyay").
- (b) If a word begins with a consonant, move all of the characters up to but not including the first vowel to the end of the word and add "ay" (e. g., `igpay("parrot")` returns "arrotpay". `igpay("knights")` returns "ightsknay").
- (c) If a word begins with a vowel, append "way" (e.g.: `igpay("add")` returns "addway". `igpay("office")` returns "officeway".)
- (d) If there are no vowels in the word, return the word unchanged (ex: `igpay("why")` returns "why"). For this part of the assignment only, you may assume that the words will all be in lower case.

Include a self-test program (i.e. a suite beginning with `if __name__ == '__main__':` at the end) in the module that will test and print the results of all of the above rules when it is invoked via

```
$ python3 igpay.py
```

2. [50 points] Create a Python script `atinlay` that will translate every word in a text file into Pig Latin and print the result on standard output. `atinlay` will import the above `igpay` module (which will be enhanced as below). It should observe the following constraints:

- (a) The command syntax should be

```
$ ./atinlay {file_name}
```

Import the `sys` module. `sys.argv[]` will then give you the command line arguments.

- (b) Enhance `igpay()` to do the right thing with upper case, so that `igpay("The")` returns "Ethay", not "eThay" and `igpay("STUFF")` is "UFFSTAY". `igpay` should continue to work with lower case words as before.
- (c) Words can be delimited by white space (tabs, newlines, and spaces) or by punctuation, so that if the file is this line:

The parrot is deceased.

atinlay should produce:

Ethay arrotpay isway eceasedday.

not

Ethay arrotpay isway eceasedd.ay

(d) The file is of arbitrary size and may have any number of lines.