Name_____

You are *encouraged* to work together with other students, but you must turn in your own copy of your work. Try not to use a computer!

1. Here is a python program:

```
text = open('corpus.txt', 'r')
text_lines = text.readlines()
text.close()

while True:
    word = raw_input('word? ')
    for line in text_lines:
        if word in line:
            fields = line.split()
            print fields[0]
```

File corpus.txt:

```
1 the british are often upset
2 by the weather. however, there
3 is a future for waterproof
4 clothing. the water just jumps
5 off the cloth.  a special chemical
6 does the jumping effect. people
7 use this chemical in house paint.
8 for the first time, people spray
9 the chemical on boots and a jacket.
10 they use dirty water for testing.
11 it really works! people want to make
12 this chemical stronger. they can use
13 it for buildings and windows. when
14 it rains, there is no dust on the
15 glass or the buildings. we do not
16 need to clean the windows. everybody
17 likes that!
```

Note: those numbers (1 2 3 … 17) are actually text in the file!

If the program runs, and the user responds with '**they'**,
and then responds with '**windows**', what is the program's output?

2. Here is a program, and a data file:
    a) What does the program print?

    b) Describe what the program does, in **a single brief sentence**.

Program `sum.py`:	File `numbers.txt`:

<pre>file = open('numbers.txt', 'r')
lines = file.readlines()
file.close()
 	
sum = 0
for line in lines:
    fields = line.split()
    for field in fields:
        value = float(field)
        if value % 2 == 1:
            sum += value
print sum</pre>
	<pre>1 2 1 4 1 6 1 8 1 10
	3 12 3 14 3 16 3 18 3 20</pre>

3. Here is a program, and a data file. What does it output?

Program `counts.py`:	File `words.txt`:

<pre>file = open('words.txt', 'r')
lines = file.readlines()
file.close()
 	
words = []
for line in lines:
    fields = line.split()
    words = words + fields
words = sorted(words)
previous = words[0]
count = 1
for word in words[1:]:
    if word == previous:
        count += 1
    else:
        print previous, count
        count = 1
        previous = word
print previous, count</pre>
	<pre>apple cherry banana apple
	plum cherry banana
	apple orange apple
	banana plum orange
	papaya</pre>