CS 115 Exam 2, Spring 2012

Your name: _____

Rules

- You may use one handwritten 8.5 x 11" cheat sheet (front and back). This is the only resource you may consult during this exam.

- Explain/show work if you want to receive partial credit for wrong answers.

- As long as your code is correct, you will get full credit. No points for style.

- When you write code, be sure that you clearly indicate the indentation level of each statement.

Grade (instructor use only)

	Your Score	Max Score
Problem 1		40
Problem 2		30
Problem 3		30
Total		100

Problem 1: 40 points.

What will print to the screen when each of the following snippets of code is executed in IDLE?

Be very clear with spacing, line breaks, etc.

Note: the parts of this problem are *independent*.

(a)
```
a = 7
if a > 1 and a < 6:
    print("Peggy")
print("Don Draper")
```

(b)
```
for i in range(4):
    for k in range(2):
        print(k)
```

(c)
```
i = 5
while i > 0:
    print(i)
    i -= 2
```

(d)
```
a = 5
if a > 4:
    print("Betty")
elif a > 2:
    print("Sally")
else:
    print("Bobby")
```

(e)
```
s1 = "19"
s2 = "60"
print(s1 + s2)
```

(f)
```
s1 = "Joan"
print(s1 * 3)
```

(g)
```
ss = "Roger Sterling"
print(ss[1])
```

(h)
```
ss = "Bert Cooper"
tt = ss.split()
print(tt[1])
```

(i)
```
s = "Pete"
print(s.lower())
print(s)
```

(j)
```
s = "Carla"
for c in s:
    print(c)
```

Problem 2: 30 points.

Write snippets of code to do the following. Your code should only print the requested output. You will lose points for printing additional output.

You can assume that all your snippets are enclosed within a main function and that any necessary libraries have been imported. You only need to write the specific lines of code that accomplish each task.

(a) Ask the user to enter a number.
   If the user does NOT enter a valid number, print an error message.
   If the user enters a valid number, print *the square* of that number.

(b) Ask the user to enter a series of words (one per line). Stop when the user types `quit`.
   After the user has finished entering words, print the number of times the user typed `Lois` (case-insensitive).

(c) Ask the user to type a line of text.
Print the number of words in that line.
If the *last* word on the line starts with R (uppercase), print that word.
Your code should handle the case where the user types a blank line (no words).

(d) Ask the user for a number of countries. (You can assume they give you a positive number.)
Ask the user to enter the names of that many countries.
Immediately after the user enters each name, do the following:
- If the user entered USA (case-insensitive), print Washington DC.
- If the user entered Canada (case-insensitive), print Ottawa.
- Otherwise, print Cool.

[intentionally left blank]

Problem 3: 30 points.

For this problem, you must write a **complete program**. That includes a docstring, a `def main()`, any necessary library imports, etc.

Read the instructions carefully before you start coding! If you get stuck, try to maximize your partial credit.

Your program should do the following:

1. Ask the user to enter the number of students in a class. If the user enters a negative number or a non-numeric value, print an error message and exit the program.

2. Ask for the first name of each student. If the user gives you a name that is more than one word, print an error message and exit the program.

3. For each letter in each student's name (you can assume that the names do not have any numbers or special characters), ask the user to type a word that starts with that letter. Capitalize that letter in your prompt.

4. Print the final sequence of words that the user entered for that student, as shown below. NOTE: This is the hard part. Don't spend all your time on this; if you need to, just print the student's name and the first word the user entered (e.g. `Gene = groovy`)

Here is just one example:

```
Enter the number of students: 4

Name of student: Gene
Type a word starting with G: groovy
Type a word starting with E: Excellent
Type a word starting with N: neat
Type a word starting with E: eligible
Gene = groovy Excellent neat eligible

Name of student: harry
Type a word starting with H: honorable
Type a word starting with A: artistic
Type a word starting with R: rad
Type a word starting with R: ridiculous
Type a word starting with Y: young
harry = honorable artistic rad ridiculous young

Name of student: Kenneth Cosgrove
Error: enter the first name only.
```