CS103-01 **Programming Assignment #1** **Due: 6/15/2017**

Overview:
This first programming assignment will require you to print output to the screen, receive input from the user, increment a number (i.e., add 1 to it), and use some if/else statements and relational operators.

Description:
This program should ask the user to input a number grade. The program should then, in response, indicate to the user the letter grade associated with that grade. For our program, we'll use the following +/- grading scale:

A+	A	A-	B+	B	B-	C+	C	C-	D	F
100-97	96-93	92-90	89-87	86-83	82-80	79-77	76-73	72-70	69-60	59-0

So, for example, if the user inputs the number 87, the program should print a message indicating to the user that the associated letter grade is B+. And, if the user inputs the number 86, the program should indicate the associated grade is B. The behavior is undefined if the user inputs a number over 100.

Once the program has printed out the associated letter grade, it should again ask the user to input a number grade. The program should continue asking for grades until the user enters a grade of -1, at which point the program should print out the total number of each letter grade entered, and then exit.

Details:
When your program first runs, it should print out a simple UAH logo using the "#" character, like this:

```
##  ##      ##      ##  ##
##  ##     ####     ##  ##
##  ##    ##  ##    ######
##  ##    ######    ##  ##
 ####     ##  ##    ##  ##
```

It should also print out your name, the course number ("CS102-01"), and the programming assignment name ("Programming Assignment #1"), each on a new line. Then, the program should skip a line (i.e., print a blank line), and print a brief description of what the program does. After printing this information, the program should begin asking the user to input grades and printing out the associated letter grades.

Your code should include comments indicating what important parts of the code do.

I've included an "example run" on the next page, which should clarify exactly what information is to be printed and with what formatting.

Submission:
All programming assignments are to be submitted as hard copy **and** electronically. For the electronic submission, just submit your .java file via Canvas. Assignments should be turned in during class on the due date (or earlier). Grading late assignments is really time consuming (seriously – I didn't realize this until I started grading), so don't turn in any assignment late unless you've made arrangements with me.

As always, do your own work.

Example Run:

```
##  ##     ##     ##  ##
##  ##    ####    ##  ##
##  ##   ##  ##   ######
##  ##   ######   ##  ##
 ####    ##  ##   ##  ##
Jacob Hauenstein
CS103-01 Programming assignment 1

This program will ask you to input student number grades, one at a time.
For each grade, it will print the letter grade associated with that number on a +/- scale.
When you are done entering grades, enter "-1" for the grade and the program will end.

Grade: 87
That student earned a grade of B+
Grade: 98
That student earned a grade of A+
Grade: 75
That student earned a grade of C
Grade: 70
That student earned a grade of C-
Grade: 81
That student earned a grade of B-
Grade: -1
Totals:
A: 1
B: 2
C: 2
D: 0
F: 0
```

Hints:

The logic for taking in more than one grade and counting them might be a little tricky at first. Try first implementing a program that just takes in one grade and prints out the letter grade. Then, think about how you would do that in a “while” loop. When does the loop stop? Counting the number of grades entered during the loop is just a matter of incrementing a counter that starts at 0.

The only letter grade printed should be the one associated with the number grade. The output will be wrong if I just use a series of statements like,

```
if (grade > 96)
{
    System.out.println("A+");
}

if (grade > 92)
{
    System.out.println("A");
}
```

, because when the user enters “98” the program will print both “A+” and “A”.