3. PROGRAMMING ASSIGNMENT 3:
Read: Chapter 5, Appendix D
Programming: Name your program p3.c
DUE: Saturday, October 21, 2017 @ 6:00am

Write a program that will execute two sets of calculations to each print a letter grade for a numerical grade. Therefore 2 exact letter grades will be printed for one number input. The first set of calculations will use the if else construct to display the first letter grade. The second set of calculations will use the switch statement to display the second letter grade.

One whole number (integer) will be input for the numerical grade. The program will only accept input between 0-100. The program will use ALL if-else and ALL switch statements to PRINT out the letter grade, once for the if statement and once for the switch statement. (Do NOT intermix the decision constructs).

a) The following scale is used for the letter grade:
   A = 90-100, B = 80-89, C = 70-79, D = 60-69, F = 0-59.
   The "++" (plus plus) symbol is added if the score is 100.
The "+" (plus) symbol is added if the last digit ends in a 7, 8, or 9.
The '-' (minus) symbol is added if the last digit ends in a 0, 1, or 2 (except for 100).
   No plusses or minuses are assigned to D grades.
   All F grades are "F--".

   The first set of printfs using if-else will display the letter grade. e.g. "A"
The second set of printfs using if-else will display the symbol. e.g. "+

   The third set of printfs using switch will display the letter grade. e.g. "A"
The fourth set of printfs using switch will display the symbol. e.g. "+

   Use ONLY the if-else construct in the first and second set of printfs.
   Use ONLY the switch construct in the third and fourth set of printfs.

b) Check for a valid integer score input of 0 through 100 using a loop. Output an error message if an out-of-range value is entered and prompt for another numerical score to be input. Do not print a letter grade for an invalid input.

   NOTE: The grader will input 1 whole number ONLY. Do not use functions or any other construct we have not yet covered in lecture.

c) Use symbolic constants to represent constants " #define A 9 "

d) Allow your program to repeat these calculations as often as the user wishes until the user types in a single character of a 'n' or 'N'. NOTE: Program ONLY stops on 'n' or 'N'.

   HINT: Code in this sequence.
   1) Using if-else display letter grade of ‘A’ with printf. Then calculate for letter grade ‘B’… ‘F’.
   2) Following the letter grade, using if-else display the symbol of ‘+’...
   3) Repeat Hint step 1) using switch statement. Do NOT use 100 case labels.
   4) Repeat Hint step 2) using switch statement. Do NOT use 20 case labels.
   5) Error check input with if statement and do loop.
   6) Code and test for ending program. Test.

Submit the final version of your program as p3.c
PA#3 SAMPLE OUTPUT (SAMPLE INPUT is typed in bold below)
This program calculates your letter grade in a course.

Enter your class score (0-100): 89
Using if-else your score of 89 is a grade of: B+
Using switch your score of 89 is a grade of: B+

Want another grade (y/n)? x

Enter your class score (0-100): 100
Using if-else your score of 100 is a grade of: A++
Using switch your score of 100 is a grade of: A++

Want another grade (y/n)? Z

Enter your class score (0-100): -2
ERR: OUT of the RANGE of 0 through 100

Enter your class score (0-100): 9
Using if-else your score of 9 is a grade of: F--
Using switch your score of 9 is a grade of: F--

Want another grade (y/n)? a

Enter your class score (0-100): 62
Using if-else your score of 62 is a grade of: D
Using switch your score of 62 is a grade of: D

Want another grade (y/n)? b

Enter your class score (0-100): 71
Using if-else your score of 71 is a grade of: C-
Using switch your score of 71 is a grade of: C-

Want another grade (y/n)? c

Enter your class score (0-100): 95
Using if-else your score of 95 is a grade of: A
Using switch your score of 95 is a grade of: A

Want another grade (y/n)? N

Verify you SAVED your work in the Documents - cs5f HOME directory.

Note: These letter grades are not for our class since we only award ‘+’ and ‘-‘ symbols.