Homework 4

CP119L

1. (ch5 exercise 5.45, p.242) Testing Math Library Functions. Only test fabs(), ceil(), floor() for x = -3.0, -2.9, …, 3.0. Print out a table of function values (with 6 digits after the decimal point):

   x   fabs(x)   ceil(x)   floor(x)
   -3.0   ⋮   ⋮   ⋮
   -2.9
     ⋮

2. (ch5 exercise 5.46, p.243) Only do (a), (b), and (c).

3. Write a sub-routine `prt(n)`. It will print *n* of "=" continuously in a line and end with a new line character
   For example, `prt(3)` will yield

   ```
   ===
   ```
   on the console.
   The function prototype is given as
   ```
   void prt(unsigned int n);
   ```
   Then, use this function in a program to print a pyramid of height *m*, where *m* is specified by the user's input. For example, the user enters 6 as *m*, then the print out on the console looks like this:

   ```
   =
   ==
   ===
   ====
   =====
   ======
   ```

4. (ch5 exercise 5.32, p.239) Guessing the Number

5. (ch5 exercise 5.29) Lowest Common Multiple lcm(a,b). [Hint: assume a < b. If not, make it so. Check if b, 2b, 3b, … can be evenly divided by a. The least multiple of b found to satisfy this condition is the answer.]
   After you design and write the function, write a test program:
   >> Ask the user to input two integers
   >> The program prints their LCM.
   Note: the function should not have scanf, printf. It only takes two parameters a and b, and returns the value of LCM.