Assignment 3
CS 202- FALL 2018

Save your solutions named *p01.c, p02.c…p11.c* in a sub-directory called **a3** in your home directory. Assignment is due next Friday **Oct 5** before class time. You can find reference executables in the */u1/junk/cs202/a3/* directory and check the correctness of your programs with the command

202check a3

1. Write a C program to read an integer as a command line argument and print to *stdout* a left-aligned triangle pattern of asterisk (*).
   Example:
   Input   : > ./p01 4
   Output: > *
              **
              ***
              ****

2. Write a C program to read an integer as a command line argument and print to *stdout* a right-aligned triangle pattern of asterisk (*).
   Example:
   Input   : > ./p02 5
   Output: >   *
                 **
                ***
               ****
              *****

3. Write a C program to read an integer as a command line argument and print to *stdout* a right-aligned inverted triangle pattern of asterisk (*).
   Example:
   Input   : > ./p03 5
   Output: > *****
              ****
               ***
                **
                 *

4. Write a C program that reads a filename as a command line argument which contains 2 matrices, multiplies the matrices and prints the result matrix (use %5d for the integers in matrix) to *stdout*
   Example:
   Input   : > ./p04 a3.mat1
   Output: >   73 45   62
              135 61 104

5. Write a C program that reads a filename as a command line argument which contains one integer per line, reads all integers into an array and prints one integer per line (use %5d) to *stdout.*
   Example:
   Input   : > ./p05 a3.nums1
   Output: >   9
              76
              42
             238

92

6. Write a C program that reads a filename as a command line argument which contains one integer per line, reads all integers into an array and prints one integer per line(use %5d) to *stdout* in **reverse order**.
   Example:
   Input   : > ./p06 a3.nums1
   Output: >   92
              238
               42
               76
                9

7. Write a C program that reads a filename as a command line argument which contains one integer per line, reads all integers into an array and prints the **maximum, minimum** and the **average** (use %.02f) to *stdout.*
   Example:
   Input   : > ./p07 a3.nums1
   Output: > Minimum : 9
              Maximum: 238
              Average   : 91.40

8. Write a C program that reads two filenames as a command line argument each containing one integer per line, compare the two arrays, print the number of equal elements to *stdout*.
   Example:
   Input   : > ./p08 a3.nums1 a3.nums2
   Output: > 6

9. Write a C program that reads a filename as a command line argument which contains one integer per line, reads all integers and print all the palindrome integers to *stdout.*
   Example:
   Input   : > ./p09 a3.nums3
   Output: 1331
           323
           7447
           61316
           2882

10. Write a C program that reads a filename as a command line argument which contains one word per line, reads all words, counts the number of five-letter words and prints the count to *stdout.*
    Example:
    Input   : > ./p10 a3.words1
    Output: > 15

11. Write a C program that reads a filename as a command line argument which contains one word per line, reads all words and print all the palindrome words to *stdout.*
    Example:
    Input   : > ./p11 a3.words2
    Output: > madam
            rotor
            civic