BİL 102 – Computer Programming
HW 04

Last Submission Date: March 27, 2013 – 14:00

PART1(40Pts).

Implement the following functions to draw the patterns described below:

- **int drawNumericPattern(int n)** : Draws a figure like the one below according to the following descriptions:
  - drawNumericPattern(4) should draw figure1.
  - Each square in the figure represents space for one character. Squares will not be drawn.
  - Input parameter n is the biggest integer to be used in the pattern (examine the red labeled number).
  - Passing each series, number of spaces between series will be decreased by 1 such that the length of the last space will be 1 character (examine the shaded area).
  - Direction of the series will be toggled each time a new series is met.
  - Function should return the number of integers pressed, which is obtained by summing the return values of printf functions.

1				2	1			1	2	3		4	3	2	1

Figure 1

- **int drawArrowLikePattern(int height, int count, char ch)** : Draws a figure like the one below according to the following descriptions:
  - drawArrowLikePattern(5, 1, 'O') should draw figure2, drawArrowLikePattern(5, 4, 'x') should draw figure3.
  - count represents the number of repetitions of a base figure (like the one in figure2 – examine figure 2 and 3)
  - Spaces between the middle lines of base figures are increased by 1 each time a new base figure is met (examine the shaded areas).
  - height must be given as an odd number
  - Function should return the number of non-space characters pressed, which is obtained by summing the return values of printf functions.

O				
	O	O		
		O	O	O
	O	O		
O				

Figure 2

x				x					x						x				
	x	x			x	x				x	x					x	x		
		x	x	x		x	x	x			x	x	x				x	x	x
	x	x			x	x				x	x					x	x		
x				x					x						x				

Figure 3

PART2(60 Pts). Write a function to multiply 2 given matrices according to the following descriptions:

- Implementations using arrays will not be graded.
- Matrices will be given in 2 text files named as “input1.txt” and “input2.txt”, which may be given at any sizes.
- The result will be written to a text file named as “output.txt”, which has the same format as the input files.
- All files will be opened in main() only.
- Prototype of the function will be as follows:
  void matrixMultiplier(FILE* mat1, FILE* mat2, FILE* result)
- Input files may include any double values delaminated by space characters horizontally and new line characters vertically.

Note that:

- Each time you read new value from a file (inside any function) the file pointer proceeds (shows the next item to read).
- If you need to read previous values from the file you can:
  - Close and reopen it (bad style) to arrive the first item in the file.
  - Use a library function to travel on the file: **you are allowed to use only rewind() among these functions in this homework.**

General:

1. Obey honor code principles.
2. Obey coding convention.
3. Your submission should include the following file only
   HW03_<student_name>_<studentSirname>_<student number>.c
4. Deliver the printout of your code **until the last submission date**.
5. Do not use non-English characters in any part of your homework.