ANKARA UNIVERSITY

COM101B

Fall 2016

Programming Assignment #1

Due Date: 23/11/2016, 23:55

Write a C program which continuously reads a number from command prompt and prints the framed diamond shape that can be generated by this number using the asteriks (*) and space ( ) charcters, until a negative number is provided .

You are provided two sample inputs and corresponding output files. Please carefully analyze the given sample oputput files for the correct diamonds structure and write your program accordingly.

Testing and validating your program:

Assume that your executable program file is **PA1**, test your implementation from an Ubuntu terminal as follows:

> ./PA1<input1.txt>my_output1.txt

> ./PA1<input2.txt>my_output2.txt

Make sure that my_output1.txt is exactly the same with output1.txt file that are provided to you. Similarly, my_output2.txt is exactly the same with output2.txt

Hint: You can compare two files automatically line by line using **diff** command from an Ubuntu terminal:

>diff my_output.txt output.txt

Input files are generated under Ubuntu. Hence, if you want to view these I/O files under Windows OS, you can use **Notepad++** program, which is a free platform independent application. Otherwise, you may not see the it properly. Sample diamond shapes for a couple of different sizes are depicted in the following page.

Sample Diamond Shapes:

```
Diamond size: 1
---
|*|
|*|
---
Diamond size: 2
-----
| * |
|***|
|***|
| * |
-----
Diamond size: 3
-------
|  *  |
| *** |
|*****|
|*****|
| *** |
|  *  |
-------
Diamond size: 4
---------
|   *   |
|  ***  |
| ***** |
|*******|
|*******|
| ***** |
|  ***  |
|   *   |
---------
Diamond size: 5
-----------
|    *    |
|   ***   |
|  *****  |
| ******* |
|*********|
|*********|
| ******* |
|  *****  |
|   ***   |
|    *    |
-----------
```