**Objective:** For, While, Do-While Cycles; 
Switch-Case, If-Else if-Else Structures

**Important Notice:**
The deadline for the submission of lab1’s code is 1st November, 2013 23:59. You should submit your C source file to the following e-mail addresses before deadline.

- Group A: bil200a@gmail.com
- Group B: bil200b@gmail.com
- Group C: bil200c@gmail.com

Source code should be entitled as IDNUMBER_PROJ1.c. (If the ID number is 11111111111, then the name of the file should be 11111111111_PROJ1.c)

Source code should also incude NAME SURNAME and PROJECT NUMBER on its first line as a comment line as following:

`/* YOURNAME YOURSURNAME PROJ1 */`

Each source code should be expressed in details by comment lines!

The statements, functions, operators appearing in the C code are limited with what is learned until the end of 4th week, no advanced techniques -including functions and arrays - are allowed.

**PROJECT 1: (Printing asked shapes with using characters)**

Firstly your program will ask the user five parameters for the operation at the beginning.

The first parameter should be a character to choose the shape that will be printed.

It could be ‘T’ or ‘t’ for triangle,

- ‘R’ or ‘r’ for rectangle,

- ‘P’ or ‘p’ for parallelogram,

- ‘D’ or ‘d’ for diamond.

Otherwise user will be asked to enter this parameter again, until he/she enters a valid character.
**Second parameter** should be a number which identifies the **height** of the shape.

The height should be minimum 2 for triangle, rectangle and parallelogram.

The height should be minimum 3 and an odd number for diamond.

**Third parameter** should be a number which identifies the **width** of the shape.

The width should be minimum 2 for rectangle and parallelogram.

The width should be assumed equal to the height for diamond and triangle. Therefore if the selected shape is diamond or triangle, width don’t have to be asked to user.

**Forth parameter** should be a character which identifies the **emptiness** of the shape.

It could be ‘E’ or ‘e’ for empty shape,

   ‘F’ or ‘f’ for full shape.

Otherwise user will be asked to enter this parameter again, until he/she enters a valid character.

**Fifth parameter** should be character that will be used for printing shape.

**For example:**

If **first parameter** is ‘T’, **second parameter** is 6, **forth parameter** is ‘F’ and **fifth parameter** is ‘q’ (third parameter is unnecessary because of triangle shape) then the printed shape should be as following:

q
q q
q q q
q q q q
q q q q q
q q q q q q
q q q q q q q
If forth parameter is ‘E’ instead of ‘F’ in the previous example, then the shape should be as following:

q
q q
q  q
q  q
q q
q q q q q q q

If first parameter is ‘R’, second parameter is 4, third parameter is 3, forth parameter is ‘F’ and fifth parameter is ‘*’ then the printed shape should be as following:

*  * *
*  * *
*  * *
*  * *
*  * *
*  * *

If forth parameter is ‘E’ instead of ‘F’ in the previous example, then the shape should be as following:

*  * *
*  *
*  *
*  *
*  *
If first parameter is ‘P’, second parameter is 3, third parameter is 4,
forth parameter is ‘F’ and fifth parameter is ‘t’ then the printed shape should be as following:

```
  t t t t
  t t t t
  t t t t
  t t t t
```

If forth parameter is ‘E’ instead of ‘F’ in the previous example, then the shape should be as following:

```
  t t t t
  t  t  t
  t t t t
```

If first parameter is ‘D’, second parameter is 5, forth parameter is ‘F’ and fifth parameter is ‘O’ (third parameter is unnecessary because of diamond shape) then the printed shape should be as following:

```
  O
  O O O
  O O O O O
  O O O
  O
```

If forth parameter is ‘E’ instead of ‘F’ in the previous example, then the shape should be as following:

```
  O
  O O O
  O
  O O
  O O
  O
```
As a final step, your program should not exit until the user wants to finish. To do so, your program will ask the user whether she/he wants to exit or wants to do another new operation after each operation;

Please enter ‘E’ or ‘e’ to exit...

If the user types ‘E’ or ‘e’, then program will complete execution, otherwise, if the user type any other key, then the program should ask the user for a new operation.

Warning: Don’t use array structures in any part of your program !!!

GRADING:  COMMENT LINES:  12 PTS
REGULAR PROGRAM WRITING:  12 PTS
OPERATION SELECTION MENU:  12 PTS
EMPTY TRIANGLE SHAPE:  9 PTS
FULL TRIANGLE SHAPE:  9 PTS
EMPTY RECTANGLE SHAPE:  9 PTS
FULL RECTANGLE SHAPE:  9 PTS
EMPTY PARALLELOGRAM :  9 PTS
FULL PARALLELOGRAM:  9 PTS
EMPTY DIAMOND:  9 PTS
FULL DIAMOND:  9 PTS