

**Jordan University of Science and Technology**  
**Faculty of Computer Information Technology**  
**Software Engineering Department**  
**Software Engineering Lab 2 (SE325)**  
*Task1: Revision*

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**OBJECTIVES:**

To Make Sure That you have knowledge in the following subjects:

- Using Arrays to store Data and retrieve data from.
- Defining classes and using them to create objects.

Develop a C# Console application to do the following:

1. Keep records and perform statistical analysis for an array of triangles. The information of each triangle contains side1, side2 and side3.

	Data Member	Type	Protectin Level	Conditions	Note
1	Side1	double	Private	Value Must be Positive	You have to add accssessors: [SET,GET]
2	Side2	double	Private	Value Must be Positive	You have to add accssessors: [SET,GET]
3	Side3	double	Private	Value Must be Positive	You have to add accssessors: [SET,GET]
4	Is valid triangle	bool	public	Read Only property	the triangle is valid if and only if the (sum of any two side larger than the third side)
5	Is Equilateral	bool	Public	Read Only	Return true if side1=side2=side3
6	circumference	double	Public	Read Only property	Return side1+side2+side3

The program will prompt the user to choose the operation of records from a menu as shown below:

```
##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####
```

If The User Press "#": The application will be closed.

If The User Press "C": The Console Window will be cleared.

If The User Press "1": Add a new record to the array of triangle objects (Must be valid triangle).

```
Enter Your Choice
#####
1
Enter side1
6
Enter Side2
8
Enter Side3
9

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####
```

```
Enter Your Choice
#####
1
Enter side1
1
Enter Side2
2
Enter Side3
3
Nat valid Rectangle

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####
```

```

Enter Your Choice
#####
1
Enter side1
4
Enter Side2
-4
Must be > 0

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####

```

If The User Press “2”:

All Records in the array of Triangle objects have to be displayed.

```

Enter Your Choice
#####
2
side1      side2      side3      Circumference
6           8           9           23
4           5           7           16
3           3           3           9
6           6           6           18

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####

```

If The User Press "3":  
Show The Equilateral Triangles.

```
Enter Your Choice
#####
3
side1      side2      side3      Circumference
3          3          3          9
6          6          6          18

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####
```

If The User Press "4":  
Show the triangle with the maximum circumference value

```
Enter Your Choice
#####
4
side1      side2      side3      Circumference
6          8          9          23

##### MENU #####
Press # to Exit
Press C to Clear Screen
Press 1 To Add Triangle Record
Press 2 To View All Triangles Record
Press 3 To Show Equilateral triangle
Press 4 To Show the triangle with largest circumference
Enter Your Choice
#####
```