

Lebanese University

University Institute of Technology

Second year - CCNE

## LAB 1 - OOP

### Exercise 1 :

Write a program that asks the user to give two words. Then it compares them and displays the following output :

```
Give the first word
hello
Give the second word
hi
hi > hello
Press any key to continue . . .
```

Remark : use the method `CompareTo` from the class `System.String` :

```
int compare = ch1.CompareTo(ch2);
```

compare = 1 if `ch1 > ch2`

compare = 0 if `ch1 = ch2`

compare = -1 if `ch1 < ch2`

### Exercise 2 : game

The objective of the game is to roll up two dices and compute the summation of values obtained : if the summation is less than 6, the player loses 5 dollars.

if the summation is greater than 6, the player wins 5 dollars .

You have to write a program that simulate the game knowing that the player begins with an amount of 20 dollars and plays 5 times.

```
i:1=> [dice 1]=5 and [dice 2]=5
sum = 10; amount=25
i:2=> [dice 1]=2 and [dice 2]=5
sum = 7; amount=30
i:3=> [dice 1]=3 and [dice 2]=1
sum = 4; amount=25
i:4=> [dice 1]=5 and [dice 2]=5
sum = 10; amount=30
i:5=> [dice 1]=5 and [dice 2]=1
sum = 6; amount=30
the total amount is 30 dollars.
Press any key to continue . . .
```

**Remark:** You have to use the class `Random` which enable you to get a random value.

**First step: create an object `Random`** => `Random objRandom = new Random();`

### Second step :

int r = objRandom.Next(); => return a random value.

int r = objRandom.Next(n); => return a random value between 0 and n.

int r = objRandom.Next(min,max); => return a random value between min and max.

### Exercise 3 :

Write a program that displays the multiplication table as follow:

```
multiplication table:
table of 1
1 x 1 = 1
1 x 2 = 2
1 x 3 = 3
1 x 4 = 4
1 x 5 = 5
1 x 6 = 6
1 x 7 = 7
1 x 8 = 8
1 x 9 = 9
1 x 10 = 10
*****
table of 2
2 x 1 = 2
2 x 2 = 4
2 x 3 = 6
2 x 4 = 8
2 x 5 = 10
2 x 6 = 12
2 x 7 = 14
2 x 8 = 16
2 x 9 = 18
2 x 10 = 20
*****
table of 3
3 x 1 = 3
3 x 2 = 6
3 x 3 = 9
3 x 4 = 12
3 x 5 = 15
3 x 6 = 18
3 x 7 = 21
3 x 8 = 24
3 x 9 = 27
3 x 10 = 30
*****
table of 4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
*****
table of 5
5 x 1 = 5
5 x 2 = 10
5 x 3 = 15
5 x 4 = 20
5 x 5 = 25
5 x 6 = 30
5 x 7 = 35
5 x 8 = 40
5 x 9 = 45
5 x 10 = 50
*****
table of 6
6 x 1 = 6
6 x 2 = 12
6 x 3 = 18
6 x 4 = 24
6 x 5 = 30
6 x 6 = 36
6 x 7 = 42
6 x 8 = 48
6 x 9 = 54
6 x 10 = 60
*****
table of 7
7 x 1 = 7
7 x 2 = 14
7 x 3 = 21
7 x 4 = 28
7 x 5 = 35
7 x 6 = 42
7 x 7 = 49
7 x 8 = 56
7 x 9 = 63
7 x 10 = 70
*****
table of 8
8 x 1 = 8
8 x 2 = 16
8 x 3 = 24
8 x 4 = 32
8 x 5 = 40
8 x 6 = 48
8 x 7 = 56
8 x 8 = 64
8 x 9 = 72
8 x 10 = 80
*****
table of 9
9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90
*****
table of 10
10 x 1 = 10
10 x 2 = 20
10 x 3 = 30
10 x 4 = 40
10 x 5 = 50
10 x 6 = 60
10 x 7 = 70
10 x 8 = 80
10 x 9 = 90
10 x 10 = 100
```

### Exercise 4 :

Color	Frequency ( THz)
Infrared	< 405
Red	~ 405-480
Orange	~ 480-510
Yellow	~ 510-530
Green	~ 530-580
Blue	~ 580-690
Purple	~ 690-790
Ultraviolet	> 790

Ask the user to enter a THz frequency. Then according to the table above, the program should indicate the corresponding color. (Give two methods)