1)

The sum of the squares of the first ten natural numbers is,

$$1^2 + 2^2 + \ldots + 10^2 = 385.$$

The square of the sum of the first ten natural numbers is,

$$(1 + 2 + \ldots + 10)^2 = 55^2 = 3025.$$

Hence the difference between the sum of the squares of the first ten natural numbers and the square of the sum is $3025 - 385 = 2640$.

Find the difference between the sum of the squares of the first one hundred natural numbers and the square of the sum.

2)

Read an integer value corresponding to a person's age (in days) and print it in years, months and days, followed by its respective message "ano(s)", "mes(es)", "dia(s)".

Note: only to facilitate the calculation, consider the whole year with 365 days and 30 days every month. In the cases of test there will never be a situation that allows 12 months and some days, like 360, 363 or 364. This is just an exercise for the purpose of testing simple mathematical reasoning.

Input

The input file contains 1 integer value.

Output

Print the output, like the following example.

Input Sample	Output Sample
400	1 ano(s) 1 mes(es) 5 dia(s)
800	2 ano(s) 2 mes(es) 10 dia(s)
30	0 ano(s) 1 mes(es) 0 dia(s)

3)

You must make a program that read a float-point number and print a message saying in which of following intervals the number belongs: [0,25] (25,50], (50,75], (75,100]. If the read number is less than zero or greather than 100, the program must print the message "Fora de intervalo" that means "Out of Interval".

The symbol '(' represents greather than. For example:
[0,25] indicates numbers between 0 and 25.0000, including both.
(25,50] indicates numbers greather than 25 (25.00001) up to 50.0000000.

Input

The input file contains a floating-point number.

Output

The output must be a message like following example.

Input Sample	Output Sample
25.01	Intervalo (25,50]
25.00	Intervalo [0,25]
100.00	Intervalo (75,100]
-25.02	Fora de intervalo

4)

Write a program to read the coordinates (X, Y) of an indeterminate number of points in Cartesian system. For each point write the quadrant to which it belongs. The program finish when at least one of two coordinates is NULL (in this situation without writing any message).

Input

The input contains several tests cases. Each test case contains two integer numbers.

Output

For each test case, print the corresponding quadrant which these coordinates belong, as in the example.

Input Sample	Output Sample
2 2 3 -2 -8 -1 -7 1 0 2	primeiro quarto terceiro segundo

Adjustments and translating by Cássio Favaretto.

5)

Write a program that read an integer number N (0 ≤ N ≤ 100) that correspond to the order of a Bidimentional array of integers, and build the Array according to the above example.

Input

The input consists of several integers numbers, one per line, corresponding to orders from arrays to be built. The end of input is indicated by zero (0).

Output

For each integer number of input, print the corresponding array according to the example. (the values of the arrays must be formatted in a field of size 3 right justified and separated by a space. None space must be printed after the last character of each row of the array. A blank line must be printed after each array.

Sample Input	Sample Output
1 2 3 4 5 0	1 1 1 1 1 1 1 1 1 2 1 1 1 1 1 1 1 1 1 2 2 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 2 2 2 1 1 2 3 2 1 1 2 2 2 1 1 1 1 1 1

6)

Write a program that read an integer number N (0 ≤ N ≤ 15) that correspont to the order of a bidimentional array of integers, and build the array according to the above example.

Input

The input consists of several integers numbers, one per line, corresponding to orders from arrays to be built. The end of input is indicated by zero (0).

Output

For each integer number of input, print the corresponding array according to the example. The values of the array must be formatted in a field of size **T** right justified and separated by a space, where **T** is equal to the number of digits of the biggest number in the array. None space must be printed after the last character of each row of the array. A blank line must be printed after each array.

Sample Input	Sample Output

1
2
3
4
5
0
	1
	
	1 2
	2 4
	
	 1 2 4
	 2 4 8
	 4 8 16
	
	 1 2 4 8
	 2 4 8 16
	 4 8 16 32
	 8 16 32 64
	
	  1 2 4 8 16
	  2 4 8 16 32
	  4 8 16 32 64
	  8 16 32 64 128
	 16 32 64 128 256