Question 1:
Write the given 10 integer numbers in reverse.

input	output
3 6 9 12 15 18 21 24 27 30	30 27 24 21 18 15 12 9 6 3
0 1 2 3 4 5 6 7 8 9	9 8 7 6 5 4 3 2 1 0

Question 2:
Strings that read in reverse are the same as themselves are called palindromes. Find out if a string of 10 elements given to you is a palindrome. If it is a palindrome, print 1 on the screen, otherwise 0.

input	output
i o n u r s u n o i	0
n a z a n n a z a n	1

Question 3:
In Fibonacci Numbers, each number progresses as the sum of the two preceding numbers, such as 0,1,1,2,3,5,8, ... In this question you are given a number (0 <N <20). Accordingly, write the program that prints all Fibonacci numbers backwards from the Nth Fibonacci number.

input	output
0	0
5	5 3 2 1 1 0
10	55 34 32 13 8 5 3 2 1 1 0

Question 4:
In this problem you are given an even N (1 <N <100) number. Then N integers are given. Write a program that prints these given numbers such as one from beginning one from end and so on.

input	output
6 1 2 3 4 5 6	1 6 2 5 3 4
1 1 5	1 5
4 12 14 15 13	12 13 14 15

Question 5:
Write the program that finds the sum of the absolute values of the differences between two consecutive elements in an integer list with N (2 <N <100) elements.

input	output
5 10 9 8 3 9	13
10 10 12 8 5 7 14 20 2 9 21	61

Question 6:
Write the program that finds the largest positive increment in an integer list with N (2 <N <100) elements.

input	output
5 100 9 8 23 49	26
10 10 12 8 5 7 14 20 2 99 21	97

Question 7:
Write the program that finds the length of the longest ascending consecutive sublist in an integer list with N (2 <N <100) elements.

input	output
5 10 9 8 23 49	3
10 10 12 8 5 7 14 20 2 99 21	4

Question 8:
In a 15-element list, find the maximum consecutively repeating character, and print the number of repetition.

input	output
A 2 2 C c # A A A A 4 f f f F	4
4 h # 6 c c & 8 (a t t Q Q $	2

Question 9:
You will be given the elements of A set with N elements and B set with M elements (2 <= N, M <= 100). Write the program that finds the elements of the A∩B set. In the first line of the entry, the number N will be given, followed by the elements of the A set. In the second line, first the number M, then the elements of the set B will be given. When printing the result on the output, you must print the elements in the order they appear in set A. Intersections are guaranteed not to be empty sets. Set elements will only consist of alphabet letters and numbers.

input	output
9 a b c d e 1 2 3 4 9 c d e f g 6 7 8 9	c d e
2 a b 2 b a	a b

Question 10:
You will be given the elements of A set with N elements and B set with M elements (2 <= N, M <= 100). Write the program that finds the elements of the A-B set. In the first line of the entry, the number N will be given, followed by the elements of the A set. In the second line, first the number M, then the elements of the set B will be given. When printing the result on the output, you must print the elements in the order they appear in set A. Intersections are guaranteed not to be empty sets. Set elements will only consist of alphabet letters and numbers.

input	output
9 a b c d e 1 2 3 4 9 c d e f g 6 7 8 9	a b 1 2 3 4
3 a b c 2 b a	c

Question 11:
You will be given the elements of A set with N elements and B set with M elements (2 <= N, M <= 100). Write the program that finds the elements of the A∪B set. In the first line of the entry, the number N will be given, followed by the elements of the A set. In the second line, first the number M, then the elements of the set B will be given. When printing the result on the output, you must print the elements in the order they appear in set A. Intersections are guaranteed not to be empty sets. Set elements will only consist of alphabet letters and numbers.

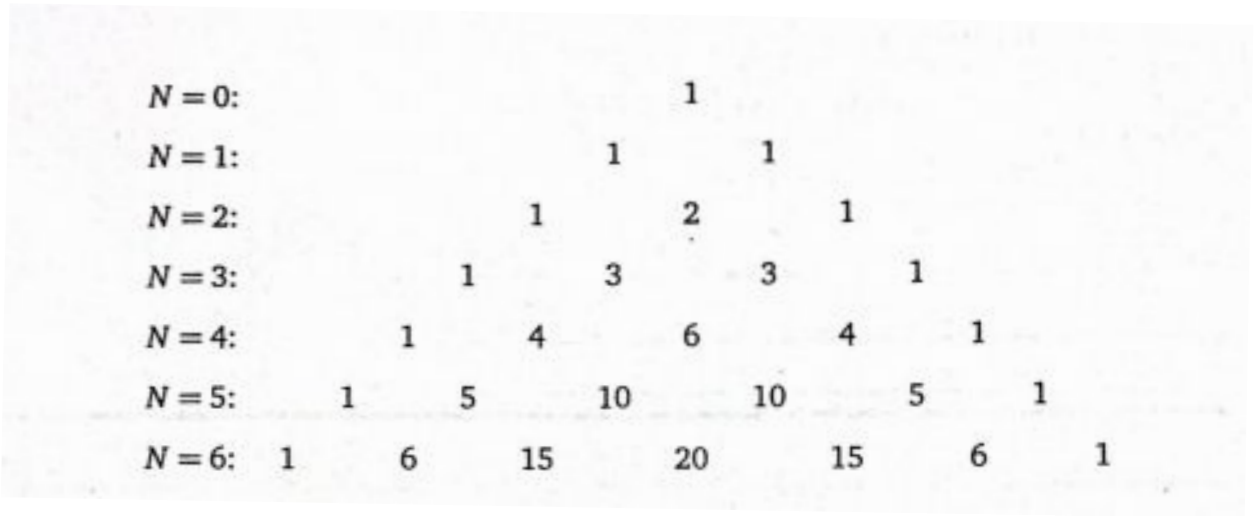
input	output
9 a b c d e 1 2 3 4 9 c d e f g 6 7 8 9	a b c d e 1 2 3 4 f g 6 7 8 9
2 a b 2 b a	a b

Question 12:

N (<100) people sit around a round table. These persons are numbered from 1 to N in the clockwise direction. We remove the Kth (<= N) person from the table, starting with the 1st person and moving clockwise. Until the table is empty, write a program that finds the numbers of the people in the order in which they leave the table. First N, then K number will be given.

input	output
5 2	2 4 1 5 3
10 3	3 6 9 2 7 1 8 5 10 4

Question 13:



As seen above in Pascal's triangle, the numbers in each row (except for the 1's at the start and end) are equal to the sums of the numbers on the left and right above them. You are given a number 0 <N <20. Accordingly, write the program that prints the Pascal triangle up to the line N numbered left aligned.

input	output
3	1 1 1 1 2 1 1 3 3 1
6	1 1 1 1 2 1 1 3 3 1 1 4 6 4 1 1 5 10 10 5 1 1 6 15 20 15 6 1

Question 14:
A magic square consists of N rows and N columns, and the sum of each row, each column and both diagonals are equal to $N(N^2+1)/2$. In this matrix, all numbers from 1 to N^2 are written exactly once. First, you are given the number N (<30), then a matrix of N x N. Write a program that finds out if this matrix is a magic square. Print 1 if the magic square is, 0 otherwise.

input	output
3 4 9 2 3 5 7 8 1 6	1
3 4 9 2 3 5 7 8 6 1	0

Question 15:
For the given values of M (<100) and N (<100), write the program that fills an M x N matrix diagonally from the lower left corner as follows.

input	output
3 3	4 7 9 2 5 8 1 3 6
4 5	7 11 15 18 20 4 8 12 16 19 2 5 9 13 17 1 3 6 10 14