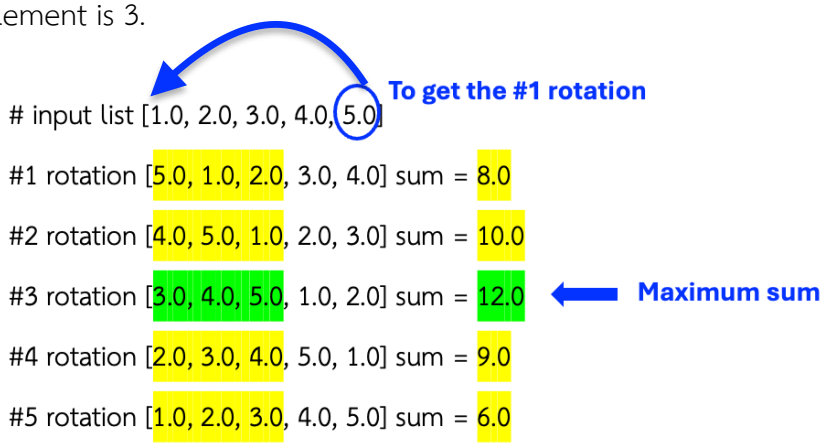
Question No # 1 : Find Max Sum of N from Rotated List

Objective: List processing

From an input list of float numbers, you need to rotate right the list one element at a time; the last element will become the first element, and find the summation of the first N elements of the rotated list. This rotation will be iterated over the whole list. Print out the first N elements with their summation, the maximum among the rotations. If there is more than one ratation with the maximum sum, report the ***last rotation*** you got. **Hint:** you may want to use **-math.inf** within your code. The following shows an example of rotation in action with the input list is 1.0 2.0 3.0 4.0 5.0 and the first N element is 3.



Output:

12.0

[3.0, 4.0, 5.0]

Your task

Write a Python program to do the above task.

INPUT

Two lines of inputs. The first line is the list of float/int numbers (negative, 0, positive) separated by spaces. The second line contains an integer N indicating the number of first N elements we want to get the maximum sum.

OUTPUT

The program must print out two lines of results: the first line is the maximum sum as float (with 2 decimal point based on round()), and the second line is the list of N elements that produce that maximum sum.

EXAMPLES

Input (from keyboard)	Output (on-screen)
1.0 2.0 3.0 4.0 5.0 3	12.0 [3.0, 4.0, 5.0]
1 2 3	3.0 [2.0, 1.0]
3.33 4.33 5.99 6.33 7.33 8.33 3	21.99 [6.33, 7.33, 8.33]
1.0 3	1.0 [1.0]
-10 -20 -30.0 2	-30.0 [-10.0, -20.0]
-1.0 4	-1.0 [-1.0]
-1.0 -1.0 -1.0 -1.0 -1.0 4	-4.0 [-1.0, -1.0, -1.0, -1.0]
10 -12 8 -3 12 -9 14.0 7 -4 3	17.0 [8.0, -3.0, 12.0]

Test Cases in Grader

Testcases will be grouped. Each group has the following criteria:

Testcases quantity	Testcase characteristics
40%	Input with all positive float number
20%	Input with all negative values
10%	Input with both integer and float
10%	Varied number of N
20%	Multiple subsets having the same maximum sum