

Class template and function template are quite useful in C++. Write a program to read different types of input using the standard library class template vector, and sort them using function template.

Requirement: Use sample main function and implement input, output and sorting functions in a header file “function_template.h” using class template vector and function template to handle different types of input parameters.

Prohibited: Use built-in function such as qsort or sort for sorting. Use C-style input/output.

Input

Each case contains two line. The first lines have two integers which in turn correspond to the number of elements n and the data type d of each input, where 0, 1, and 2 represent char, int, and double, respectively. The second line contains n elements of type d separated by space. The input ends with a single zero.

Output

For each case, output the sorted result in descending order with end line stream manipulator.

Sample Input

4 0
A C D B
5 0
e c o b a
6 1
1 3 9 7 6 2
4 2
3.2 1.3 4.7 2.1
0

Sample Output

D C B A
o e c b a
9 7 6 3 2 1
4.7 3.2 2.1 1.3