itertools.permutations()

Problem Statement

itertools.permutations(iterable[, r])

This tool returns successive \$r\$ length permutations of elements in an iterable.

If \$r\$ is not specified or is None, then \$r\$ defaults to the length of the iterable, and all possible full length permutations are generated.

Permutations are printed in a lexicographic sorted order. So, if the input iterable is sorted, the permutation tuples will be produced in a sorted order.

Sample Code

```
>>> from itertools import permutations
>>> print permutations(['1','2','3'])
<itertools.permutations object at 0x02A45210>
>>>
>>> print list(permutations(['1','2','3']))
[('1', '2', '3'), ('1', '3', '2'), ('2', '1', '3'), ('2', '3', '1'), ('3', '1', '2'), ('3', '2', '1')]
>>>
>> print list(permutations(['1','2','3'],2))
[('1', '2'), ('1', '3'), ('2', '1'), ('2', '3'), ('3', '1'), ('3', '2')]
>>>
>> print list(permutations(['1','2','3'],2))
[('a', 'b', 'c'), ('a', 'c', 'b'), ('b', 'a', 'c'), ('b', 'c', 'a'), ('c', 'b'), ('c', 'b', 'a')]
```

Task

You are given a string \$\$\$.

Your task is to print all possible permutations of size \$k\$ of the string in lexicographic sorted order.

Input Format

A single line containing the space separated string \$S\$ and the integer value \$k\$.

Constraints

 $0 < k \le len(S)$

The string contains only *UPPERCASE* characters.

Output Format

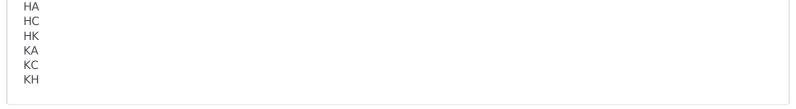
Print the permutations of the string \$S\$ on separate lines.

Sample Input

HACK 2

Sample Output

AC		
AC AH AK		
AK		
CA		
CH		
CH CK		



Explanation

All possible size \$2\$ permutations of the string "HACK" are printed in lexicographic sorted order.