
Forbidden words

P89318_en

Write a program that, given a number n , prints all the words that are a permutation of the first n lowercase letters, with one restriction: there cannot be two letters x and y such that y is immediately to the right of x in the word and y is the letter following x in the alphabet.

Input

Input consists of a natural number n between 1 and 9.

Output

Print in order and one per line all the words that satisfy the restriction.

Sample input 1

3

Sample output 1

acb
bac
cba

Sample input 2

4

Sample output 2

acbd
adcb
badc
bdac
bdca
cadb
cbad
cbda
dacb
dbac
dcba

Problem information

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