Forbidden words

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
cbd
dacb
dbac
dcba
```

Problem information

Author : Salvador Roura
Translator : Salvador Roura
Generation : 2014-08-14 11:33:15

http://www.jutge.org