Antipalindromic words   P89248_en

In this problem, we say that a word is antipalindromic if it does not contain any subword that is a palindrome (with the exception of empty subwords and single letters). Write a program that prints all the antipalindromic words of length n that can be made up with the first x lowercase letters.

Input

Input consists of n and x. Suppose $1 \le n \le 50$ and $1 \le x \le 26$.

Output

Print, in alphabetic order, all the antipalindromic words of length n that can be made up with the first x lowercase letters.

Sample input 1

```
8 3
```

Sample output 1

```
abcabcab
acbacbac
bacbacba
bcabcabc
cabcabca
cbacbacb
```

Sample input 2

```
3 4
```

Sample output 2

```
abc
abd
acb
acd
adb
adc
bac
bad
bca
bcd
bda
bdc
cab
cad
cba
cbd
cda
cdb
dab
dac
dba
dbc
dca
dcb
```

Problem information

Author: Salvador Roura
Translator: Salvador Roura

Generation: 2026-01-25T12:18:56.982Z