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PROBLEMS SUBMIT STATUS STANDINGS CUSTOM TEST

# E1. Erase and Extend (Easy Version)

time limit per test: 2 seconds
memory limit per test: 256 megabytes

**This is the easy version of the problem. The only difference is the constraints on $n$ and $k$. You can make hacks only if all versions of the problem are solved.**

You have a string $s$, and you can do two types of operations on it:

- Delete the last character of the string.
- Duplicate the string: $s := s + s$, where $+$ denotes concatenation.

You can use each operation any number of times (possibly none).

Your task is to find the lexicographically smallest string of length exactly $k$ that can be obtained by doing these operations on string $s$.

A string $a$ is lexicographically smaller than a string $b$ if and only if one of the following holds:

- $a$ is a prefix of $b$, but $a \ne b$;
- In the first position where $a$ and $b$ differ, the string $a$ has a letter that appears earlier in the alphabet than the corresponding letter in $b$.

### Input

The first line contains two integers $n, k$ $(1 \le n, k \le 5000)$ — the length of the original string $s$ and the length of the desired string.

The second line contains the string $s$, consisting of $n$ lowercase English letters.

### Output

Print the lexicographically smallest string of length $k$ that can be obtained by doing the operations on string $s$.

### Examples

input Copy

```
8 16
dbcadabc
```

output Copy

```
dbcadabcdbcadabc
```

input Copy

```
4 5
abcd
```

output Copy

```
aaaaa
```

### Note

In the first test, it is optimal to make one duplication: "dbcadabc" → "dbcadabcdbcadabc".

In the second test it is optimal to delete the last $3$ characters, then duplicate the string $3$ times, then delete the last $3$ characters to make the string have length $k$.

**Codeforces Round 726 (Div. 2)**

**Finished**

Practice

### → Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

### → Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

### → Submit?

Language: GNU G++17 7.3.0

Choose file: Choose File No file chosen

Submit

### → Contest materials

- Announcement (en)
- Tutorial (en)

"abcd" → "abc" → "ab" → "a" → "aa" → "aaaa" → "aaaaaaaa" → "aaaaaaa" → "aaaaaa" → "aaaaa".