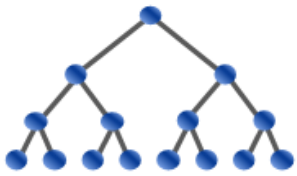
USA Computing Olympiad



USACO 2024 December Contest, Bronze
Problem 3. It's Mooin' Time

Return to Problem List

Contest has ended.

Submitted; Results below show the outcome for each judge test case

1	2	3	4	5	6	7	8	9	10	11	12	13
* 35.1mb 104ms	* 35.0mb 101ms	* 38.5mb 158ms	* 35.2mb 109ms	* 35.5mb 112ms	* 35.4mb 109ms	* 35.0mb 98ms	* 35.5mb 111ms	X	X	X	X	X

English (en)

Farmer John is trying to describe his favorite USACO contest to Elsie, but she is having trouble understanding why he likes it so much. He says "My favorite part of the contest was when Bessie said 'It's Mooin' Time' and mooed all over the contest."

Elsie still doesn't understand so Farmer John downloads the contest as a text file and tries to explain what he means. The contest is defined as a string of lowercase letters of length N ($3 \le N \le 20\,000$). A moo is generally defined as the substring $c_i c_j c_j$ where some character c_i followed directly by 2 occurrences of some character c_j where $c_i \neq c_j$. According to Farmer John, Bessie moos a lot, so if some moo appears at least F ($1 \le F \le N$) times in the contest, that might be from Bessie.

However, Farmer John's download might have been corrupted, and the text file might have up to one character that differs from the original file. Print all possible moos that Bessie could have made taking the potential error into account, sorted in alphabetical order.

INPUT FORMAT (input arrives from the terminal / stdin):

The first line contains N and F, representing the length of the string and the frequency threshold for a moo by Bessie.

The second line contains a string of lowercase letters of length N, representing the contest.

OUTPUT FORMAT (print output to the terminal / stdout):

Print out the number of possible moos that Bessie makes, followed by a lexicographically sorted list of the moos. Each moo should appear on a separate line.

SAMPLE INPUT:

```
10 2
zzmoozzmoo
```

SAMPLE OUTPUT:

```
1
moo
```

In this case, no character change affects the answer. The only moo Bessie made was "moo".

SAMPLE INPUT:

```
17 2
momoobaaaaaqqqcqq
```

SAMPLE OUTPUT:

```
3
aqq
baa
cqq
```

In this case, the a at position 8 (zero-indexed) could have been corrupted from a b which would have resulted in "baa" being a moo that Bessie made twice. Alternatively, the q at position 11 could have been corrupted from a c which would have resulted in "cqq" being a possible moo that Bessie made. "aqq" can be made by swapping the c with an a.

SAMPLE INPUT:

```
3 1
ooo
```

SAMPLE OUTPUT:

```
25
aoo
boo
coo
doo
eoo
foo
goo
hoo
ioo
joo
koo
loo
moo
noo
poo
qoo
roo
soo
too
uoo
voo
woo
xoo
yoo
zoo
```

SCORING:

- Inputs 4-8: $N \leq 100$
- Inputs 9-13: No additional constraints.

Problem credits: Suhas Nagar

Contest has ended. No further submissions allowed.

Previous Submissions:

Sun, Dec 15, 2024 18:50:35 EST (Java)
Sun, Dec 15, 2024 19:35:22 EST (Java)
Sun, Dec 15, 2024 20:56:48 EST (Java)
Sun, Dec 15, 2024 21:03:25 EST (Java)
Sun, Dec 15, 2024 21:08:48 EST (Java)