BPC 1 J4 - Assignment of the Year

Time limit: 1.5s **Memory limit:** 512M

This year at Spirit of Math Schools, you have been assigned to find the number of unique numbers between 0 and M (inclusive) you can create using a list of N digits. You may add or concatenate digits. Their order must be maintained, and every digit must be used. Output the number of unique values you can create between 0 and M.

Constraints

$1 \leq N \leq M \leq 10^4$

Subtask 1 [10%]

All of the digits are the same.

Subtask 2 [90%]

No additional constraints.

Input Specification

The first line contains two integers, N and M.

The next line contains a string of N digits (numbers between 0 and 9).

Output Specification

Output a single line containing an integer, the number of unique values that can be created.

Sample Input

```
4 100
1996
```

Sample Output

```
2
```

Explanation for Sample

There are 8 possible combinations of operations:

$$\begin{aligned}
1+9+9+6 &= 25 \\
1+9+96 &= 106 \\
1+99+6 &= 106 \\
1+996 &= 997 \\
19+9+6 &= 34 \\
19+96 &= 115 \\
199+6 &= 205 \\
1996 &= 1996
\end{aligned}$$

Only two of these are between 0 and 100 (25 and 34).