P8 - Maximum Subsequence

Background definitions

Subsequence of a given string: Any string that can be obtained by deleting zero or more symbols from the given string (the remaining symbols occur in the same order, but aren't necessarily consecutive).

Examples: "", "a", "xb", "aaa", "bbb", "xabb", "xaaabbb" are subsequences of "xaaabbb".

Common subsequence of a given set of strings: Any string that is a subsequence of each of the given strings.

Examples: "xa", "aaa", "bbb" are common subsequences of the strings in {"xaaabbb", "a7axb8bab", "bbabartxta"}.

Longest common subsequence of a given set of strings: Any *maximum length* common subsequence of the given set of strings.

Example: "aaa", "bbb" are the two longest common subsequences of the above set of strings. Their length is 3, which is greater than the length of any other common subsequence.

Determine the maximum length of the common subsequences of a given set of N non-empty words.

Consider a set of N words (strings), where each word is a non-empty sequence of lowercase English letters and digits. Assume that $2 \le N \le 100$, that each word contains maximum 100 characters, and that in each set the product of all its word lengths is maximum 2,097,152.

INPUT FORMAT:
The input may consist of several sets, and each set consists of several lines.

- Line 1: A positive integer N giving the number of words in the current set. The value $N = 0$ signals the end.

- Next N Lines: Each line consists of a non-empty word, ie, a non-empty sequence of lowercase English letters and digits.

OUTPUT FORMAT:
The output consists of one line for each input set.

- Each line contains an integer giving the maximum length of all common subsequences of the corresponding set (in input order).

SAMPLE INPUT:

```
2
ab
bc
3
xaaabbb
a7axb8bab
bbabartxta
3
ab
bc
cd
2
1abc2def3ghi4jkl5mno6pqr7stu8vwx9yz0
abc8def7ghi6jkl0mno4pqr3stu2vwx1yz
0
```

SAMPLE OUTPUT   and COMMENTS

```
1
3
0
26
```

```
1 = the length of "b"
3 = the length of either "aaa" or "bbb"
0 = the length of the empty word
26 = the length of "abcdefghijklmnopqrstuvwxyz"
```