1995 East-Central Regionals

ACM International Collegiate Programming Contest

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Problem C - Machined Surfaces

An imaging device furnishes digital images of two machined surfaces that eventually will be assembled in contact with each other. The roughness of this final contact is to be estimated.

A digital image is composed of the two characters, "X" and " " (space). There are always 25 columns to an image, but the number of rows, N, is variable. Column one (1) will always have an "X" in it and will be part of the left surface. The left surface can extend to the right from column one (1) as contiguous X's.

Similarly, column 25 will always have an "X" in it and will be part of the right surface. The right surface can extend to the left from column 25 as contiguous X's.

Digital-Image View of Surfaces

```
Left                     Right

XXXX                     XXXXX   ←1
XXX                    XXXXXXX
XXXXX                     XXXX
XX                      XXXXXX
.                            .
.                            .
.                            .
XXXX                      XXXX
XXX                     XXXXXX   ←N
↑                            ↑
1                           25
```

In each row of the image, there can be zero or more space characters separating the left surface from the right surface. There will never be more than a single blank *region* in any row.

For each image given, you are to determine the total "void" that will exist after the left surface has been brought into contact with the right surface. The "void" is the total count of the spaces that remains between the left and right surfaces after they have been brought into contact.

The two surfaces are brought into contact by displacing them strictly horizontally towards each other until a rightmost "X" of the left surface of some row is immediately to the left of the leftmost "X" of the right surface of that row. There is no rotation or twisting of these two surfaces as they are brought into contact;

they remain rigid, and only move horizontally.

Note: The original image may show the two surfaces already in contact, in which case no displacement enters into the contact roughness estimation.

INPUT

The input consists of a series of digital images. Each image data set has the following format:

> First line -- A single unsigned integer, N, with value greater than zero (0) and less than 13. The first digit of N will be the first character on a line.
>
> Next N lines -- Each line has exactly 25 characters; one or more X's, then zero or more spaces, then one or more X's.

The end of data is signaled by a null data set having a zero on the first line of an image data set and no further data.

OUTPUT

For each image you receive as a data set, you are to reply with the total void (count of spaces remaining after the surfaces are brought into contact). Use the default output for a single integer on a line.

EXAMPLE

In the example input file below, the spaces have been replaced with the character "B" for ease of reading. The actual input file will use the ASCII-space character, not "B".

Input File	Output File
4	
XXXXBBBBBBBBBBBBBBBBXXXXX	4
XXXBBBBBBBBBBBBBBBXXXXXXX	0
XXXXXBBBBBBBBBBBBBBBBXXXX	0
XXBBBBBBBBBBBBBBBBBXXXXXX	
2	
XXXXXXXXXXXXXXXXXXXXXXXXX	
XXXXXXXXXXXXXXXXXXXXXXXXX	
1	
XXXXXXXXXBBBBBBBBBBBBBBXX	
0	