

## Problem E. Black-and-white Square

Input file:            Output file:           output .txt  
Time limit:            2 seconds  
Memory limit:         256 mebibytes

Encouraged by success of his previous paintings, Kazimir Malevich prepares to create a new masterpiece. In order to reach a whole new level of abstraction, he decided to divide the process of creation into several steps.

He started by taking a white canvas and tiling it into a grid of  $n \times m$  identical square cells. After that, he painted some of the cells black. Now Malevich wants to cut out some square area along the grid lines, and he wants it to be striped. Contemporary artists define a striped area as follows: it has exactly  $k$  distinct black rows, exactly  $k$  distinct black columns and all other cells are white. Now Malevich is startled by the following question: "How many distinct ways to find a striped square are there?". Help him understand how many distinct striped square areas can be found on the canvas. Two square areas are considered distinct if they have a different side length or different coordinates of the upper left corner.

### Input

The first line contains integers  $n$ ,  $m$  and  $k$  ( $1 \leq n, m, k \leq 1000$ ). Next  $n$  lines describe the canvas. Each line consists of  $m$  characters, each character is either '1' or '0'. A zero means that the corresponding cell on the canvas is white, a one means that it is black.

### Output

A single line must contain the answer to the problem.

### Example

input.txt	output.txt
5 6 2 010100 111111 010100 111111 010100	7

### Note

We will denote a square area as  $(R, C, L)$  where  $R$  and  $C$  denote the row and column of the upper left corner and  $L$  denotes its side length. In the given example, there are seven different ways to choose a squared striped area:  $(2, 2, 3)$ ,  $(1, 1, 4)$ ,  $(1, 2, 4)$ ,  $(2, 1, 4)$ ,  $(2, 2, 4)$ ,  $(1, 1, 5)$ ,  $(1, 2, 5)$ .