Word search   P94262_en

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Your task is to write a program, that for each word search given, prints how many times appears the word "OIE" inside of it, horizontally, verticaly, or in diagonal. (In total, you must check 8 different senses.)

Input

The input consists of a series of cases. Each case consists of two numbers r and c, both of them between 1 and 100, followed by r rows with c uppercase letters each one.

Output

For each word search, your program must print how many times appears "OIE" inside of it.

Sample input

```
3 3
OIE
IIX
EXE

1 10
EIOIEIOEIO

5 5
EAEAE
AIIIA
EIOIE
AIIIA
EAEAE

7 2
OX
IO
EX
II
OX
IE
EX

1 1
E
```

Sample output

```
3
4
8
3
0
```

Problem information

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