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# Cyclic Permutations

Attempted by: 3 / Accuracy: 100% / ★★★★★

Tag(s): Algorithms, KMP, Medium, Z-algorithm

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Given two binary strings **A** and **B**, count how many [cyclic permutations](#) of **B** when taken [XOR](#) with **A** give 0.

## Input

First line contains **T**, the number of testcases. Each testcase consists of two lines, first line contains **A** and next line contains **B**.





## Output

For each testcase, print required answer in one line.

## Constraints

$$1 \leq T \leq 10$$

$$1 \leq \text{length}(A) = \text{length}(B) \leq 10^5$$

SAMPLE INPUT	 
2 101 101 111 111	
SAMPLE OUTPUT	 
1 3	

## Explanation

Testcase 1: Three cyclic permutations of string B are 101 , 110 , 011 . Only one of them gives 0 when taken XOR with A.

Testcase 2: Three cyclic permutations of string B are 111 , 111 , 111 . All of them gives 0 when taken XOR with A.

**Time Limit:** 2.0 sec(s) for each input file.

**Memory Limit:** 256 MB

**Source Limit:** 1024 KB

**Marking Scheme:** Marks are awarded when all the testcases pass.

**Allowed Languages:** C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala,

## CODE EDITOR

Enter your code or [📁 Upload your code](#) as file.

All changes saved

Visual Basic (mono vbnc 4.0.1)



```
1 | Loading...
```

1:1

COMPILE & RUN

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💡 Press ctrl-space for autocomplete suggestions.

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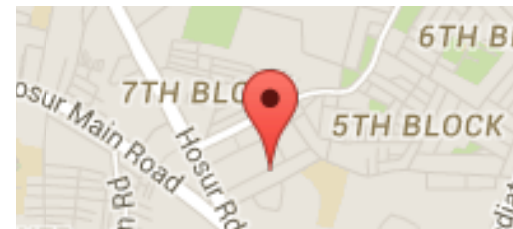
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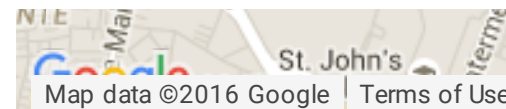
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