

Bracelets

Lea's neighbours have two daughters: Lara and Sarah. Last Christmas, Lea bought two nice silver bracelets for them. She had hoped they would like them, but they reacted as every child does: Each of them wanted to have the other's bracelet, but neither of them was willing to trade. Lea soon realized that she should have bought absolutely identical gifts.

Luckily, she had an idea how to fix this. The bracelets are built from smaller segments, each of them having a tiny picture on it. Lea is able to remove any of the segments, but by doing so she destroys them. Therefore, she may not exchange segments, but only remove some of them. She quickly figured out which segments to remove that both bracelets look the same. But now, weeks later, she still worries whether she could have removed other segments in a way that the remaining bracelets would have been longer.

Input

The first line of the input contains an integer t . t test cases follow, each of them separated by a blank line. Each test case consists of two lines containing one string a and b , respectively, describing the bracelets. The strings contain only the lower-case characters "a" to "z", representing the different pictures on the segments. Note that you may rotate the bracelets or turn them around, for instance "abcd" describes the same bracelet as "bcda" and "dcba" do. Also, the given bracelets may have different lengths.

Output

For each test case, output one line containing "Case # i : x " where i is its number, starting at 1, and x is the maximum length of the identical bracelets after removing some segments. Each line of the output should end with a line break.

Constraints

- $1 \leq t \leq 20$
- $1 \leq |a|, |b| \leq 250$

Sample Input 1

```
2
abcdef
dcbafe
```

```
abcdd
dbac
```

Sample Output 1

```
Case #1: 6
Case #2: 3
```

Sample Input 2**Sample Output 2**

17
qbt
aoygjd

zjj
ohl

plk
kceplsidfw

gskztvi
cowv

cyico
dvu

opzohlhojv
lrv

ossvcg
khfvkbelkt

qkoybfurhb
aodnquw

hdiin
omnerhn

tlhah
extpcafhg

fnn
jkidv

lypb
ciymmmwc

oturhkf
vwqwl

zhmrvh
iguft

glf
xvigra

gpxz
hmgbldgw

qlmp
qxxxxsvtes

Case #1: 0
Case #2: 0
Case #3: 3
Case #4: 1
Case #5: 0
Case #6: 2
Case #7: 1
Case #8: 3
Case #9: 2
Case #10: 3
Case #11: 0
Case #12: 1
Case #13: 0
Case #14: 0
Case #15: 1
Case #16: 2
Case #17: 1