The Gold-Bug P66042_en

Tercer Concurs de Programació de la FME (2006-05-04)

Consider a text conisting only of lowercase letters, encrypted with one of the easiest methods: each letter has an associated character that it is always written in its place. Given the translation table and a text encrypted with this table, recover the original text.

Input

Input consists of several cases. Each case begin with the translation table: a word with 26 different characters (with no spaces and no '_'), the first one corresponding to 'a', the second one to 'b', ..., and the last one to 'z'. Next comes a strictly positive natural number n, followed by n non-empty lines with encrypted text.

Output

For each case, print the original text, also in n lines. Replace every '_' of the encrypted text by a space. Print an empty line at the end of each case.

Observation

The first example is (basically) extracted from the short story "The Gold-Bug" of Edgar Allan Poe. The second text is a famous quotation of Donald Knuth.

Sample input

```
52-!813467/09*+.[();?']<:>
6
5_3++!_305))_6*_;48_26)4+.)_4+);80_6*_;48_!8'60)_)85;
;]8*;:_+*8_!83(88)_5*!_;46(;88*_96*?;8)
*+(;485);_5*!_2:_*+(;4
956*_2(5*-4_)8'8*;4_0692_85);_)6!8
)4++;_1(+9_;48_081;_8:8_+1_;48_!85;4)_485!
5_288_06*8_1(+9_;48_;(88_;4(+?34_;48_)4+;_161;:_188;_+?;

bcdefghijklmnopqrstuvwxyza
3
cfxbsf_pg_cvht_jo_uif_bcpwf_dpef
j_ibwf_pomz_qspwfe_ju_dpssfdu
opu_usjfe_ju
```

Sample output

```
a good glass in the bishops hostel in the devils seat
twenty one degrees and thirteen minutes
northeast and by north
main branch seventh limb east side
shoot from the left eye of the deaths head
a bee line from the tree through the shot fifty feet out

beware of bugs in the above code
i have only proved it correct
```

not tried it

Problem information

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