

# The Blangkon Code

**Run-time Limit:** 1 second

**Memory Limit:** 64 MB

## DESCRIPTION

Blangkon is a clever scout and programmer. He has so many experience and knowledge in encryption in scouting. Inspired from Enigma, Soviet's encryption machine used in World War II, Blangkon wants to make his own encryption which mixes both of his knowledge in scouting and programming.

He knows that not every encryption method in scouting could be implemented in programming so he decides to use Morse as the base of his encryption. He also makes his own rule on this encryption, such as :

1. The alphabet “A” starts from 1.
2. Blangkon Code follows the rule of binary code, so every alphabet will be encrypted as a sequence of dot (.) as the 0 and dash (-) as the 1.

For example :

U is the 21<sup>th</sup> alphabet. 21 converted to binary will be **10101**, in the Blangkon Code will be displayed as “**-..-**”.

3. Every character will be separated by a slash (/).
4. Every encrypted word will be separated by a hashtag (#) as a space.

For example, the decrypted code of

"-.-./..---/.--./#/---/.---/..---/--.-/....-/...-/...-/...-/...-/.../"

(without quotes) is “UGM YOGYAKARTA”.

### INPUT FORMAT

The first line of input contains integer  $T$  ( $1 \leq T \leq 100$ ) denoting the number of cases. Each case contains a nonempty string  $S$  as the Blangkon Code, where its length is not greater than  $10^4$ . It is guaranteed that the input can be decrypted.

## OUTPUT FORMAT

For each case, output “Case #X: Y” where X is the case number starts from 1, and Y is the decrypted code. The decrypted code contains capital letter only.

## INPUT EXAMPLE

```
3
--..-/.-----/..---/--..-/...-/.-.-./.....-/-...-/-...-/.....-/
-...-/.-----/.....-.-----/.--.-/.-.-./...-/-...-/-...-/
..---/-...-/.-.../.-.-.-/.-.-.-/
```

## OUTPUT EXAMPLE

```
Case #1: YOGYAKARTA
Case #2: VOCOMFEST
Case #3: GUDEG
```