

Car trialling requires the following of carefully worded instructions. When setting a trial, the organiser places traps in the instructions to catch out the unwary.

Write a program to determine whether an instruction obeys the following rules, which are loosely based on real car trialling instructions. **BOLD-TEXT** indicates text as it appears in the instruction (case sensitive), '|' separates options of which exactly one must be chosen, and '.' expands, so **A..D** is equivalent to **A|B|C|D**.

instruction = *navigational* | *time – keeping* | *navigational AND time – keeping*

navigational = *directional* | *navigational AND THEN directional*

directional = *how direction* | *how direction where*

how = **GO** | **GO when** | **KEEP**

direction = **RIGHT** | **LEFT**

when = **FIRST** | **SECOND** | **THIRD**

where = **AT sign**

sign = "signwords"

signwords = *s – word* | *signwords s – word*

s – word = *letter* | *s – word letter*

letter = **A..Z** | .

time – keeping = *record* | *change*

record = **RECORD TIME**

change = *cas TO nnn KMH*

cas = **CHANGE AVERAGE SPEED** | **CAS**

nnn = *digit* | *nnn digit*

digit = **0..9**

Note that *s – word* and *nnn* are sequences of letters and digits respectively, with no intervening spaces. There will be one or more spaces between items except before a period (.), after the opening speech marks or before the closing speech marks.

Input

Each input line will consist of not more than 75 characters. The input will be terminated by a line consisting of a single '#'.

Output

The output will consist of a series of sequentially numbered lines, either containing the valid instruction, or the text 'Trap!' if the line did not obey the rules. The line number will be right justified in a field of 3 characters, followed by a full-stop, a single space, and the instruction, with sequences of more than one space reduced to single spaces.

Sample Input

```
KEEP LEFT AND THEN GO RIGHT
CAS TO 20 KMH
GO FIRST      RIGHT AT "SMITH ST."  AND   CAS TO 20 KMH
GO 2nd RIGHT
GO LEFT AT "SMITH STREET AND RECORD TIME
KEEP RIGHT AND THEN RECORD TIME
#
```

Sample Output

1. KEEP LEFT AND THEN GO RIGHT
2. CAS TO 20 KMH
3. GO FIRST RIGHT AT "SMITH ST." AND CAS TO 20 KMH
4. Trap!
5. Trap!
6. Trap!