Messy Administration

For the fall semester 2010, EPFL proudly welcomed 2'300 new students to the campus. Handling their registrations to the different sections and levels requires an administrative masterstroke. Nowadays this process is highly automated and worked impeccably up to this year...

The software that handles the registrations wasn't lead out for such a huge number of new students and the secretaries were close to a heart attack when they received the registration printouts. Instead of receiving one sheet per class (defined by the orientation of studies and the level, e.g. Architecture, Bachelor 1) containing the list of all the students registered to that class, the printouts contained sentences in 5 different formats:

- ! *STUDENT_ID1* studies *SECTION*
- ! *STUDENT_ID1* enters semester *SEMESTER*
- ! *STUDENT_ID1* and *STUDENT_ID2* chose the same studies
- ! *STUDENT_ID1* and *STUDENT_ID2* are in same semester
- ! *STUDENT_ID1* and *STUDENT_ID2* are in same class

STUDENT_ID1 and *STUDENT_ID2* are the 6-digit sciper numbers, *SEMESTER* is an integer number in the range from 1 to 10 and *SECTION* is a one-worded string.

The secretaries were very puzzled and couldn't figure out how to recreate the expected lists from these printouts. But luckily they remembered PolyProg. The desperate secretaries provide you with the printouts and you are to answer their impatient questions to your best.

- ? What does *STUDENT_ID1* study
- ? Which semester will *STUDENT_ID1* enter
- ? Are *STUDENT_ID1* and *STUDENT_ID2* classmates

Two students are considered to be classmates if and only if they study the same subject and enter the same semester. Answering to your best means that your answer must be as complete

as possible, you must never give an erroneous answer, but you can just admit that the input was insufficient to answer a question at the point in time it was asked.

Your answers shall respect the following priority:

Question	Answer
? What does *STUDENT_ID1* study	*STUDENT_ID1* studies *SECTION* Sorry, I have no clue yet
? Which semester will *STUDENT_ID1* enter	*STUDENT_ID1* enters semester *SEMESTER* Sorry, I have no clue yet
? Are *STUDENT_ID1* and *STUDENT_ID2* classmates	Yes, *STUDENT_ID1* and *STUDENT_ID2* are classmates No, this is not possible Possible, given that *STUDENT_ID1* and *STUDENT_ID2* study the same subject Possible, given that *STUDENT_ID1* and *STUDENT_ID2* are in the same semester Sorry, I have no clue yet

INPUT

The input consists of a single test-case with no more than 1'000 printout sentences and no more than 500 questions. They may be mixed and you are to go through them in sequential order, which means that in order to answer a question, you must not rely on any information further down the list. You may safely assume that the sentences are not contradictory! Input terminates on a line containing the single word END.

OUTPUT

Output your answers, one per line and terminate with a newline. Be aware of typos :)

SAMPLE INPUT

! 166554 and 175129 chose the same studies

! 175129 and 170113 are in same semester

! 166554 studies electronics

! 169983 and 170113 chose the same studies

? Are 170113 and 169983 classmates

! 169983 enters semester 9

! 175129 and 169983 are in same semester

? Which semester will 170113 enter

? Are 169983 and 170113 classmates

? Which semester will 166554 enter

? What does 175129 study

! 169983 studies communicationsystems

? Are 166554 and 169983 classmate

END

SAMPLE OUTPUT

Possible, given that 170113 and 169983 study the same subject

170113 enters semester 9

Yes, 169983 and 170113 are classmates

Sorry, I have no clue yet

175129 studies electronics

No, this is not possible