Problem 1. Code in Mind

(Time Limit: 3 seconds)

Problem Description

Linya asks you to choose a number between 1 and 32 in mind. Then Linya show 5 cards one by one to ask you whether or not the number is shown on the cards.

Card A ： 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
Card B ： 8 9 10 11 12 13 14 15 24 25 26 27 28 29 30 31
Card C ： 4 5 6 7 12 13 14 15 20 21 22 23 28 29 30 31
Card D ： 2 3 6 7 10 11 14 15 18 19 22 23 26 27 30 31
Card E ： 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31

For example, your chosen number is 25, and then you answered the number is shown on card A, B, and E and not shown on card C and D. Linya can guess that your number is 25 in one second. Do you know how it happens?

Anyway, now it is your turn. You get different 5 cards and the numbers on each card. Linya chooses a number between 1 and 32 in mind and says the number is shown on some cards. What you have to do is to calculate Linya's chosen number. For example, cards are shown as follows.

Card A ： 1 4 7 10 13 16 19 22 25 28 31
Card B ： 2 5 8 11 14 17 20 23 26 29 32
Card C ： 3 4 5 12 13 14 21 22 23 30 31 32
Card D ： 6 7 8 15 16 17 24 25 26
Card E ： 9 10 11 12 13 14 15 16 17

If Linya says the chosen number is only shown on card B,D,E. Then you have to answer 17. If the chosen number is only shown on card A and C, then 4 and 31 are all possible and you have to answer "I don't know!". If the chosen number is only shown on card A and B, then there is no possible numbers, and you have to answer "Impossible!".

Input Format

There is an integer z on the first line indicating the number of test cases with z<=10. The first 5 lines of one test case are the numbers of 5 cards A, B, C, D and E.

There is an integer n (0<n<51) indicating the number of chosen numbers. For the following n lines, each line start with a number m (0<=m<=5) and m card names. For each chosen number, you have to output the chosen number, "I don't know!" or "Impossible!"

Output Format

For each chosen number, you have to output the chosen number, "I don't know!" or "Impossible!"

Example

Sample Input:	Sample Output:
2 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 8 9 10 11 12 13 14 15 24 25 26 27 28 29 30 31 4 5 6 7 12 13 14 15 20 21 22 23 28 29 30 31 2 3 6 7 10 11 14 15 18 19 22 23 26 27 30 31 1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 3 2 D E 2 A B 0 1 4 7 10 13 16 19 22 25 28 31 2 5 8 11 14 17 20 23 26 29 32 3 4 5 12 13 14 21 22 23 30 31 32 6 7 8 15 16 17 24 25 26 9 10 11 12 13 14 15 16 17 4 2 A C 3 A C E 0 2 A B	3 24 32 I don't know! 13 I don't know! Impossible!