Assignment Case	
COMP6047 Algorithm and Programming	BINUS UNIVERSITY Software Laboratory Center
Computer Science	**<Case Code>**
***Valid on** Compact Semester Year 2019/2020*	**Revision 00**

Soal
Case

CEO's Problem

Every CEO has their own unique problem, they say. The same goes to Jojo. Determining the fate of his newborn company is *super* tough. Every year, his board committee present him with S denoting the number of customers that use his company's services out of total M customers already in the market. And every year, *C* number of new customers will enter the market, and all of them will use his company's services.

Other than that, he must also determine whether the company is getting profit. He determines this by subtracting the amount of money that the company received to the amount of money that the company is obligated to pay.

Every N years, if the company still had money after it paid everything, he will conclude that the company is profitable. Besides that, if the company's customer is at least 50% of the total customers in the market, he will conclude that the company is dominating the entire market.

As Jojo's company is new afresh on this market, he has initially zero customers on the start. Help Jojo determine whether his company status in both financial and market's eyes.

Format Input

The input will start with an integer T, the number of test cases. Each test case consists of multiple lines. The first line consists of two integers M and N, denoting the total customers already in the market and number of years. Following this is N lines of inputs, each line consists of an integer C, denoting the number of new customer that year, and two floats P and E, denoting the amount of money the company received, and the amount of money the company is obligated to pay respectively in billions.

Format Output

For each test case, if the company is losing money, print "deficit, ". Otherwise, print "profit, ". Following that, still on the same line, if the company is having lesser than 50% of the total customers in the market, print "insignificant in the market.". Otherwise, print "market leader.".

Constraints

$0 \leq M \leq 1000000$

$1 \leq N \leq 50$

$0 \leq C \leq 10000$

$0 \leq P, E \leq 1000$

Sample Input	Sample Output
1 13 3 1 45 51 3 55 40 5 24 30	profit, insignificant in the market.

Explanation:

By the end of the 1st year, the company harvested 45 billion and costed 51 billion, which means they lose 6 billion.

By the end of the 2nd year, the company harvested 55 billion and costed 40 billion, which means they profited 15 billion. Covering the loss of 6 billion on previous year, they gained 9 billion now.

By the end of the 3rd year, the company harvested 24 billion and costed 30 billion, which means they lose 6 billion. Covered by previous year's profit, their profit is now 3 billion.

Since 3 billion is more than zero, the output will print "profit, ".

Meanwhile, by the end of the 3rd year, the company gained a total of 8 customers, while the market on whole is now 21 customers, therefore the company is "insignificant in the market".

Note:

Do not forget to add the newline character after printing the output.