

Problem 1 - House of dreams (dreams)

A boy wants to be able to buy the house of his dreams, worth 1 000 000 euros. Based on the job he chooses, he wants to figure out how long he will have to work to reach that amount. Each job guarantees a fixed income every month M , from which an amount C will be spent on normal daily expenses (rent, bills, everyday shopping) while the remains will be added to his savings R .

Periodically every N months he will have to pay taxes, an amount equal to a percentage T of the total income received in the N months. Taxes will be subtracted from your savings R . Finally, every K months you will have to pay an unexpected expense I (it can be holidays, or a medical expense), this will also be subtracted from your savings. Find out after how many months (an integer number) the savings R will reach a value equal to or greater than 1 000 000.

Input data

In each file, the first line contains the number TC of testcases.

Then, for each testcase, there is one line with the following space-separated numbers:

1. the first column contains M the monthly fixed income in euros
2. the second column contains C the monthly fixed expenses in euros
3. the third column contains T the percentage of taxes to be paid
4. the fourth column contains N the number of months after wich taxes must be paid
5. the fifth column contains I the amount of the unexpected expense in euros
6. the sixth column contains K the number of months after wich an unexpected expense arrives

Output data

The output file must contains T lines. For each test case in the input file, the output file must contains a line with the words:

Case #t: S

where t is the test case number (from 1 to T) and S is the solution of the testcase.

Constraints

- $500 < M < 50\,000$
- $0 < C < M$
- $0 < T < 0.4$
- $1 < N < 12$, integer number
- $0 < I$
- $1 < K$, integer number

Scoring

- **input 1** : $TC = 2$, $M \leq 2\,000$, $N \leq 3$ and $K \leq 3$
- **input 2** : $TC = 4$, $M \leq 2\,000$, $N \leq 4$ and $K \leq 12$
- **input 3** : $TC = 6$, $M \leq 2\,000$, $N \leq 6$ and $K \leq 60$
- **input 4** : $TC = 8$, $M \leq 20\,000$, $N \leq 12$ and $K \leq 120$
- **input 5** : $TC = 10$, $M \leq 50\,000$, $N \leq 12$ and $K \leq 240$

Examples

input	output
2 1500 800 0.25 1 1000 12 3000 1200 0.45 3 2000 30	Case #1: 4136 Case #2: 2600

Explanation

Taxes T are paid periodically after a certain number of months N and are calculated in this way: if they occur every 6 months, they will be paid in month 6, based on total earnings for months 1 to 6, month 12 based on total earnings for months 7 to 12, month 18 based on total earnings for months 13 to 18, and so on.