Problem M. World Cup

Input file: standard input
Output file: standard output

The 2018 World Cup will be hosted in Russia. 32 national teams will be divided into 8 groups. Each group consists of 4 teams. In group matches, each pair (unordered) of teams in the group will have a match. Top 2 teams with the highest score in each group will advance to eighth-finals. Winners of each eighth-final will advance to quarter-finals. Then, the winners of each quarter-final will advance to semi-finals. Eventually, the World Champion will be the winner of the World Final which is played between the two winners of the semi-finals.

Each match is labeled with a match ID sequenced from 1 to 63, with group matches followed by eighth-final matches followed by quarter-final matches followed by semi-finals matches and finally the final match.

Zhuojie is going to watch the 2018 World Cup. Since the World Champion of ACM-ICPC is very rich, he decides to spend 0.01% of his daily salary to buy tickets. However, there are only match IDs on the tickets and the prices are missing. Can you calculate how much *Google* pays *Zhuojie* every workday? Note that *Zhuojie* can buy multiple tickets for one match.

Input

The input starts with one line containing exactly one integer T, the number of test cases.

Each test case contains 3 lines. The first line contains 5 integers, indicating the ticket price for group match, eighth-final match, quarter-final match, semi-final match and the final match. The second line contains one integer N, the number of tickets *Zhuojie* buys. The third line contains N integers, each indicating the match ID on the ticket.

Output

For each test case, output one line containing "`Case #x: y`" where `x` is the test case number (starting from 1) and `y` is daily salary of *Zhuojie*.

Limits

- $1 \leq T \leq 100$.
- $1 \leq N \leq 10^5$.
- $1 \leq$ match price ≤ 1000.
- $1 \leq$ match ID ≤ 63.

Example

standard input	standard output
1 11 12 13 14 15 2 1 49	Case #1: 230000