

The Great Game of Galia



Alice has n gold coins. They all are different in weight. Bob wants some of the coins for him. So, Alice asks him to play The Great Game of Galia. In this game, there is Castle with infinite number of empty rooms. These rooms are very mysterious. When someone enters the room through a door, the door gets closed and two new doors open. One in the left and one in the right. One can go to new rooms from these doors. The game begins from the hall room.

Alice asks Bob play the game with some given rules.

1. Bob choose a coin randomly from Alice. It's weight is X unit. Then he enters the hall room.
2. When Bob enters some room and if it is empty then Bob put the coin in the room and comes back to Alice instantly magically.
3. If the room is not empty(there is already a coin) then the weight of that coin is Y unit. if X is heavier than Y then he goes through the Right door, otherwise he goes through the Left door.
4. If no more coin is left then the game ends.

Alice says she can only give away the coins to Bob which are in some rooms, which are visited only once by him. Now Bob wants to know what is the expected amount of weight he will get from the gold coins.

Input Format

The first line contains an integer, t , the number of test cases. For each test case there will be two lines.

In first line there will be given an integer, n , the number of coins that Alice has.

In the next line there will be n integers denoting the weight of each gold coins where each weight is unique.

Constraints

- $1 \leq t \leq 5$
- $1 \leq n \leq 50000$
- $1 \leq a_i \leq 10^9$

Output Format

For each test case print a number in P/Q format in a newline denoting the expected amount of weight Bob will get from the gold coins where P denotes the numerator and Q denotes the denominator and P and Q are co-prime. If Q is equal to 1 then just print P.

Sample Input

```
3
1
1
2
1 2
3
1 2 3
```

Sample Output

```
1
3/2
8/3
```

Explanation

For test case 1:

There is only one coin with weight of 1 unit that can be put in the hall room. the hall room will be visited just once. So, Bob will get that coin.

For test case 2:

Bob can choose coin with 1 unit first and put it in the hall room. Then he has only coin with 2 unit. He will enter the hall room and the room is not empty , so he will go through right door to another room and put that coin. So, he will get only the second coin as hall room is visited more than once. So, he will get 2 unit.

Again, Bob can choose coin with 2 unit first and put it in the hall room. Then he has only coin with 1 unit. He will enter the hall room and the room is not empty , so he will go through left door to another room and put that coin. So, he will get only the second coin as hall room is visited more than once. So, he will get 1 unit.

So, his expected amount of weight is $(2 + 1) / 2 = 3 / 2$

For test case 3:

if Bob chooses 1,2,3 he will get 3 unit

if Bob chooses 1,3,2 he will get 2 unit

if Bob chooses 2,1,3 he will get $(1 + 3) = 4$ unit

if Bob chooses 2,3,1 he will get $(1 + 3) = 4$ unit

if Bob chooses 3,1,2 he will get 2 unit

if Bob chooses 3,2,1 he will get 1 unit

so, expected amount of weight is $(3 + 2 + 4 + 4 + 2 + 1) / 6 = 8 / 3$