Problem E. Dinner Invitation

Time limit: 1 second
Memory limit: 256 megabytes

You are the leader of a school programming competition team in Chongqing for the CCPC. To enhance team bonding after the contest, you wish to organize a group dinner. However, since the budget was exhausted on hotpot before the competition, the cost of the meal must be **split equally**[1] among all participants.

There are n classmates in the team. Each classmate who attends the dinner will order exactly one dish. The i-th classmate orders a dish costing w_i. Each classmate also has a budget constraint r_i: if the final shared cost of the meal exceeds r_i, the i-th classmate will stay at the hotel and order takeout instead.

As the leader, you want to maximize the number of classmates attending the dinner. Your goal is to select a subset of m classmates such that if they each order their respective dishes, the shared cost (the sum of their m dish prices divided by m) does not exceed the budget r_i of any of the m selected classmates. Find the maximum possible value of m.

If no such subset exists for $m \geq 1$, output 0.

Input

There are multiple test cases in a single test file. The first line of the input contains a single integer T ($1 \leq T \leq 10^5$), indicating the number of test cases.

For each test case:

- The first line of the input contains a single integer n ($1 \leq n \leq 10^5$), representing the number of classmates.
- Next, input a line with n integers, where the i-th integer w_i ($1 \leq w_i \leq 10^9$) represents the price of the dish ordered by the i-th classmate.
- Then, input a line with n integers, where the i-th integer r_i ($1 \leq r_i \leq 10^9$) represents the maximum price the i-th classmate is willing to pay.

It is guaranteed that the sum of n over all test cases does not exceed 10^5.

Output

For each test case, output a line with a single integer, representing the answer.

Example

standard input	standard output
2 5 1 2 3 4 5 5 4 3 2 1 10 3 1 4 1 5 9 2 6 5 3 5 8 9 7 9 3 2 3 8 4	3 7

[1] That is, if k people attend a meal with a total cost of W, each person pays $\frac{W}{k}$.