Problem L. Lactose Lekkernij

Input file:	*standard input*
Output file:	*standard output*
Time limit:	1 second
Memory limit:	1024 mebibytes



Figure 12: KAAAAASSSS

In the Netherlands, there are some unique days, usually during the summer, when the sun actually shines for the whole day. This unique atmospheric event happened to coincide with the famous Urkerdag (Day of Urk). Not wanting to miss this opportunity of a lifetime, Anouk, Bas, and Casper decide to take the bicycle and visit Urk, a beautiful town known for its rich fishing culture and for previously being an island, until a certain inpoldering project connected it to the mainland.

While Anouk and Bas are enjoying their stay at the local festivities, Casper wanders to the marketplace in search of some questionable Dutch cuisine. Eventually, his eyes stumble upon a cheese store selling pieces of gatenkaas (holey cheese) cut into prisms with an equilateral triangular base, and he can't help but buy two such pieces. He keeps one piece for himself and shares the other with his friends. He goes up to the store owner and asks if this design is based on the similar Toblerone chocolate shape. After hearing some defensive and very heated remarks about the originality of the gatenkaas design, Casper decides to go back to his friends while enjoying his piece of gatenkaas.

Anouk and Bas are very excited to see they have gotten a gift, and they tell Casper what a great friend he is! While unwrapping the gift, they barely manage to contain their horrified expressions when seeing the piece of gatenkaas. Anouk and Bas are both lactose intolerant and would thus much rather not eat this gatenkaas, but on the other hand, they do not want to make Casper upset, so they decide to eat the gatenkaas together anyway.

Anouk and Bas decide to turn the task of eating the gatenkaas into a game. They split up the gatenkaas into n rows of cylindrical regions. When looking at the gatenkaas from above, the first row has 1 cylindrical region, the second row has 2 cylindrical regions, the third has 3, and so on. See the artistic interpretation of gatenkaas in the illustration for the second example case below.

Being lactose intolerant, both Anouk and Bas want to eat as little gatenkaas as possible. Using their Dutch senses, they both know how much volume of air in milliliters is trapped within the gatenkaas for each cylindrical region. Starting with Anouk, they take turns choosing one of the three sides of the gatenkaas and biting off the row of circular regions bordering this side. Then, after every bite, the gatenkaas still has an equilateral triangular base. The game ends when the last circular region of cheese has been eaten.

Assuming that Anouk and Bas play optimally with the goal to maximize their own volume of air eaten, what is the difference between the amounts of air eaten by Anouk and Bas in milliliters?

Input

The first line of the input contains a single integer t ($1 \le t \le 50$), the number of test cases.

The first line of each test case contains a single integer n ($1 \le n \le 50$), the number of rows of cylindrical regions in the gatenkaas.

In the following n lines, the i'th line contains i integers a_{ij} ($0 \le a_{ij} \le 10^6$ for $1 \le j \le i$), the amount of trapped air in milliliters in the j'th cylindrical region of the i'th row.

It is guaranteed that the sum of n over all test cases does not exceed 50.

Output

For each test case, output a single integer: the amount of air in milliliters eaten by Anouk minus the amount of air in milliliters eaten by Bas under optimal play.

Example

standard input	*standard output*
2 2 1 1 0 3 1 2 6 3 4 5	2 7

Note

In the first test case, Anouk chooses to eat from the upper left side, eating $1 + 1 = 2$ milliliters of air. After this, Bas chooses the last remaining region, eating 0 milliliters of air. The difference in total milliliters of air eaten is thus $2 - 0 = 2$.



In the second test case, Anouk chooses to eat from the upper right side, eating $1 + 6 + 5 = 12$ milliliters of air. After this, Bas chooses to eat from the bottom side, eating $3 + 4 = 7$ milliliters of air. Lastly, Anouk eats the last remaining region, eating 2 milliliters of air. The difference in total milliliters of air eaten is thus $12 + 2 - 7 = 7$.