Let's consider a triangle of numbers in which a number appears in the first line, two numbers appear in the second line, three in the third line, etc. Develop a program which will compute the largest of the sums of numbers that appear on the paths starting from the top towards the base, so that:

* on each path the next number is located on the row below, more precisely either directly below or below and one place to the right;
* the number of rows is strictly positive, but less than 100
* all numbers are positive integers between O and 99.

**Input**

In the first line integer n - the number of test cases (equal to about 1000).  
Then n test cases follow. Each test case starts with the number of lines which is followed by their content.

**Output**

For each test case write the determined value in a separate line.

**Example**

**Input:**

2

3

1

2 1

1 2 3

4

1

1 2

4 1 2

2 3 1 1

**Output:**

5

9