**Problem Statement:**

Consider an integer m X n matrix, {inmatrix} , where **m>1** and **n>1**. Identify and print **outnum** based on the following logic:

Traverse the elements of inmatrix m,in linear way such that, starting from the first row, the elements are to be traversed from left to right and right to left in alternate rows.

Add the elementts to temparr in the order of their occurenc during the above traverse until one of the two conditions are met:

The sum of elements in temparr is a perect square

A number is perfect square if its square root is a whole number

There are no more elements left for traversal

Add the perfect squares to sqnumarr

If there is any element which has not yet been visited in the traversal, repeat the above two steps by reinitialising the temparr with empty array.

Assign the maximum perfect sqnumarrr to outnum

If there are no perfect squares identified, print -1

Input format:

First line contains number of rows m of inmatrix

The next m lines contain the elements of inmatrix. Each line will have n elements separated by ' , ' (comma)

Read the inputs from the standard input stream

Output format:

Print the outnum or -1 accordingly to the standard output stream

**Sample 1 input**

3

4,2

3,4

5,6

**Sample 1 Output**

9

**Explanation:**

Here. the elements of inmatrix are traversed in linear way as folows:

    ▶️▶️

      4  2   🔽

    ◀️◀️

🔽 3  4

    ▶️▶️

      5  6

* The first element, 4 is added to temparr. The sum of elements of temparr is 4, which is a perfect square. So , add it to **sqnumarr.**
* Reinitialising temparr with an empty array, add the next element .ie. 2 to it. The sum of elements of temparr  i.e 2 is not a perfect square number.
* Add the next element in the traversal 1.e. 4. to temparr. Now sum of elements in temparr is 6 which is not a perfect square.
* Add the next element in the traversal i.e. 3, to temparr. Now the sum of elements in temparr is 9 which is a perfect square number and is added to sqnumarr ->sqnumarr becomes { 4,9 }
* Reinitializing temparr with an empty array, Add the next element i.e. 5 to it. The sum of elements of temparr i.e. 5 is not a perfect square number.
* Add the next element in the traversal i.e 6 which is not a perfect square. The sum of elements of temparr i.e. 11 is not a perfect square.

Now there are no more elements in inmatrix left for traversal.

The maximum perfect square in sqnumarr is 9. Hence the outnum is 9.

**Sample 2 Input**

3

3, 4, 8

5, 6, 9

7, 5, 4

**Sample 2 Output**

-1

**Explanation:**

Here the elements of **inmatrix** are traversed in linear way as follows:

    ▶️▶️▶️

      3  4 8 🔽

    ◀️◀️ ◀️

🔽 5  6 9

    ▶️▶️▶️

      7  5 4

* The first element 3, is added to temparr. The sum of elements of temparr is 3, which is not a perfect square number.
* Add the next element i.e.4 to it. The sum of elements of temparr..
* The sum of elements of temparr i.e. 7 is not a perfect square number.
* Add next element 8 to it. Now sum becomes 15 which is not a perfect square.
* Add next element 9 to temparr. Now sum becomes 24 which is not perfect square.
* Add next element 6 . Now sum becomes 30 which is not a perfect square.
* Add next element in the traversal i.e. 5 to temparr.Now the sum of elements in temparr is 35 which is not aperfect square number.
* Add the next elementin the traversal i.e 7 to temparr. Now the sum of elements in temparr is 42 which is not a perfect square.
* Add the nexrt element in the traversal i.e 5, to temparr. Now the sum of elements in temparr is 47 which is not a perfec square.
* Add the last element in the traversal i.e. 4 to temparr. Now sum of elements in temparr.Now sum of elements in temparr is 51 which is not a perfect square.

As no perfect square number identified, the output is -1. Hence the ouput.