02 : 47 : 06
HRS MIN SEC

6 LIVE EVENTS

# March Easy '17

LIVE

Mar 01, 2017, 09:30 PM IST - Mar 02, 2017, 12:30 AM IST



## Micro and Matrix

Max. Marks: 100

In Micro's class, students sit in a matrix of $N$ rows and $N$ columns, both numbered from $1$ to $N$. Each student is having an I.Q. level, which is an integer value. It's history class right now and Micro is getting really bored. So, he started wondering about an interesting problem. He wants to find out the largest number $X$, such that there is a submatrix of size $X \times X$ in which all students have same I.Q. level. Please help Micro to find out the answer.

**Input:**
First line consists of a single integer $T$ denoting the number of test cases.
First line of each test case consists of a single integer denoting $N$.
Each of the following $N$ lines consists of $N$ space separated integers. $j^{th}$ integer in $i^{th}$ row denotes the I.Q. level of the student sitting on $j^{th}$ chair of $i^{th}$ row.

**Output:**
For each test case print the largest possible value of $X$ in a new line.

**Constraints:**
$1 \leq T \leq 10$
$1 \leq N \leq 1000$
$1 \leq A[i][j] \leq 10^9, A[i][j] =$ I.Q. level of the student sitting on $j^{th}$ chair of $i^{th}$ row.

**Note:** Please use fast I/O methods.

SAMPLE INPUT

```
1
3
2 2 3
```

```
2 2 3
3 3 3
```

SAMPLE OUTPUT

```
2
```



### Explanation

Biggest square submatrix with all elements having equal value is the one with top-left corner $(1, 1)$ and bottom-right corner $(2, 2)$.

| | |
|---|---|
| **Time Limit:** | 2.0 sec(s) for each input file. |
| **Memory Limit:** | 256 MB |
| **Source Limit:** | 1024 KB |
| **Marking Scheme:** | Marks are awarded if any testcase passes. |
| **Allowed Languages:** | C, C++, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Scala 2.11.8, Swift, Visual Basic |

## CODE EDITOR

Enter your code or Upload your code as file. Save C (gcc 4.8.2)

```c
#include <stdio.h>

int main()
{
    printf("Hello World!\n");
    return 0;
}

```

1:1

Provide custom input

6

COMPILE & TEST SUBMIT

LIVE EVENTS

*Press Ctrl-space for autocomplete suggestions.*r4

POWERED BY code tabl

**Tip:** You can submit any number of times you want. Your best submission is considered for computing total score.

Your Rating:

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