

## Problem G - Golduck and the Three Teddiursas

Golduck is well-known in PokeCity for being a connoisseur of porridge and arrays. Today, Golduck is experimenting with arrays for the annual PokeCity ACM tryouts. Golduck has created an array  $A$  of  $n \times m$  integers ( $n$  rows and  $m$  columns), with each entry either  $+1$  or  $-1$ . Golduck is interested in paths from the top-left to the bottom-right of  $A$ , with the restriction that the paths only go down or to the right at any time.

Golduck likes his paths the way he likes his porridge, not too long and not too short. Given an interval  $[L, R]$  with both endpoints inclusive, Golduck wants you to determine if there is a path from the top left to the bottom right of  $A$ , where the sum of  $\pm 1$ s encountered over the path is within  $[L, R]$  by the time Golduck gets to the bottom right corner.

### Input

The first line will have an integer  $T$ , denoting the number of test cases. Each test case will consist of two lines. The first line will be four integers  $n$  ( $1 \leq n \leq 1000$ ),  $m$  ( $1 \leq m \leq 1000$ ),  $L$  and  $R$  (both within the range of a signed 32-bit integer). The next  $n$  lines will have  $m$  integers each, describing the grid of  $\pm 1$ s.

### Output

For each test case, output 'Yes' if there exists a path from top-left to bottom-right of  $A$  with cost within  $[L, R]$ . Output 'No' otherwise.

### Sample Input

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```
2
2 2 0 4
1 1
1 1
2 2 0 2
1 1
1 1
```

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### Sample Output

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```
Yes
No
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