lift

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1.5 seconds
Memory limit:	256 megabytes

Construction is ongoing at a rapid pace at IIIT-Delhi. Being the 'engineer' you are, you decide to see the progress and hence go on an inspection.

You see that there are p lifts in one of the buildings, and every lift takes 5 seconds to go up one level. The kth lift operates between two levels f_{k1} and f_{k2} non-stop, and once it gets to the top, it immediately starts going down. Initially you are at level 1 and all lifts are at their starting points and go up together. Return the least time in which you can get to the top, considering lift transition time as 0 (i.e when two lifts are on the same level and you wish to change).

Input

The first line contains two space-separated integers u and n: the number of levels and lifts ($2 \leq u \leq 1000, 1 \leq n \leq 8000$). n lines follow, the ith line containing the bounds f_{i1} and f_{i2} for lift i ($1 \leq f_{i1}, f_{i2} \leq u$). The testdata ensures that a solution exists.

Output

A single integer denoting the least time as required.

Example

standard input	standard output
15 6 1 8 1 10 5 7 5 15 4 5 4 8	150