

Problem LABY: Labyrinth

“Wow, that was a strange dream”, Albert thinks. In his dream he suddenly found himself in a maze that consisted of an uncountable number of rooms. Each room had eight doors. Four on the sides and four in the corners. He was not alone in the room, a small dwarf was there too, and he told Albert, he had two choices. “If you can reach the exit of this maze in less than 5 minutes, you have three wishes free. Otherwise you will work for me until the end of your life.” “Strange”, Albert thought, because the direction to the exit was clearly marked by a huge arrow on the floor of the room. But after he started his way to the exit, he found out, that there were two serious problems. First, the doors did not open immediately, but took some time after he pushed their button. The doors on the walls took 10 seconds, the ones on the corners 15. Second, some rooms seemed to be locked, so he couldn’t follow the arrows’ directions in all rooms. Like in most nightmares he didn’t find the exit. But, this was his fault, because he had chosen the wrong doors. Or was there in fact no way to reach the exit in time because even the doors on the shortest way just took too long to open?

Input

The maze has a rectangular shape, each room is a perfect square. The size of the maze in the two dimension is given in the first line of the input. First the width of the maze, then the depth separated by a single space. In the next line the number of locked regions in the maze is given (at most 50). The following lines contain the locations of the locked regions. Each locked region is given by four coordinates (all separated by a single space): first the lower left corner and then the upper right corner. After the locked rooms the third-to-last line contains the coordinates of the starting room, the second-to-last line contains the coordinates of the room that is the exit and the last line contains the number of seconds by which the dwarf wants you to reach the exit (at most 30000). Both dimensions start with 0 and are not greater than 4000.

Output

If it is possible to reach the exit room in time, output “Albert has chosen the wrong way.”. If on the other hand it is not possible, output “Mean dwarf!”. The output always ends with a line break.

Sample Input 1

```
5 5
3
1 3 1 3
0 1 0 1
3 2 3 3
0 0
4 4
70
```

Sample Output 1

```
Albert has chosen the wrong way.
```

Sample Input 2

```
5 5
3
1 3 1 3
0 1 0 1
3 2 3 3
0 0
4 4
60
```

Sample Output 2

```
Mean dwarf!
```