Lab 3.

Topic: Python functions, 2D arrays

Task: Create the simplified version of the Minesweeper game. The game should run in console mode. The script asks the size of the board first and the number of mines.

- Place the mines on the board randomly
- Calculate for each non mine field the number of neighboring mines
- Create a mask for the board so that the players cannot see where are the mines

The player can provide a coordinate in each step or exit the game. The script unmasks the desired field. If there is no mine there then the user will see the number of neighboring mines. If the user unmask a mine then the player loses the game. Unmask the board and print a “You lost!” message. In each step check if the player has found all the mines. If this is the case print “You won!” and unmask the board.

Check the game here: http://www.minsweeper.com/

Example 1:

```
What is the size in horizontal direction?5
What is the size in vertical direction?5
How many mines should we have?5
?????
?????
?????
?????
?????
exit: x
Enter coordinates separated by space:1 1
0????
?????
?????
?????
?????
exit: x
Enter coordinates separated by space:2 2
0????
?1???
?????
?????
?????
exit: x
Enter coordinates separated by space:2 3
00011
1111*
2*221
*4*10
*3110
You lost!
```

Example 2:

```
What is the size in horizontal direction?3
What is the size in vertical direction?3
How many mines should we have?2
???
???
???
exit: x
Enter coordinates separated by space:1 1
1??
???
???
exit: x
Enter coordinates separated by space:3 3
1??
???
??1
exit: x
Enter coordinates separated by space:1 3
1??
???
0?1
exit: x
Enter coordinates separated by space:1 2
1??
1??
0?1
exit: x
Enter coordinates separated by space:2 3
1??
1??
011
exit: x
Enter coordinates separated by space:2 2
1??
12?
011
exit: x
Enter coordinates separated by space:3 1
1*2
12*
011
You won!
```