

מטלה 1 :

שאלה 1-3 : <https://github.com/neta-r/research-algorithms>

שאלה 4 : קישור למשתמש :

<https://www.codingame.com/training/medium/shadows-of-the-knight-episode-1>

צילומי מסך :

```
Shadows of the Knight - Episode 1

Python 3

1 import sys
2 import math
3 # w: width of the building.
4 # h: height of the building.
5 w, h = [int(i) for i in input().split()]
6 n = int(input()) # maximum number of turns before game over.
7 x0, y0 = [int(i) for i in input().split()]
8 minimumX = minimumY = 0
9 maximumX = w - 1
10 maximumY = h - 1
11 # right - minimumX = x0 + 1
12 # left - maximumX = x0 - 1
13 # up - maximumY = y0 - 1
14 # down - minimumY = y0 + 1
15 while True:
16     bomb_dir = input()
17     # meaning the direction contains U
18     # up - maximumY = y0 - 1
19     if bomb_dir.find("U")>-1:
20         maximumY = y0 - 1
21     # meaning the direction contains D
22     # down - minimumY = y0 + 1
23     elif bomb_dir.find("D")>-1:
24         minimumY = y0 + 1
25     # meaning the direction contains L
26     # left - maximumX = x0 - 1
27     if bomb_dir.find("L")>-1:
28         maximumX = x0 - 1
29     # meaning the direction contains R
30     # right - minimumX = x0 + 1
31     elif bomb_dir.find("R")>-1:
32         minimumX = x0 + 1
33     x0 = minimumX + (maximumX - minimumX)/2
34     y0 = minimumY + (maximumY - minimumY)/2
35     # the location of the next window Batman should jump to.
36     print("{0} {1}".format(int(x0), int(y0)))
37
```

CodhGame

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WHAT WILL I LEARN?

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You have to manage indexes and list of a 2 dimensional array in this puzzle. You also discover the binary search algorithm and finally, it makes you know that batman is really good at cleaning windows.

External resources: [Multidimensional array](#), [Binary search](#), [2D Binary Search explained by Gaurav Sen](#)

LEARNING OPPORTUNITIES

This puzzle can be solved using the following concepts. Practice using these concepts and improve your skills.

[Binary search](#) [Intervals](#)

STATEMENT

The goal of this puzzle is to guess the coordinate of a bomb (line and column of a 2 dimensional array). You will have to make a guess at each step of the puzzle and adjust it from given feedbacks. Of course, you have a limited number of guess.

SOLVE IT

MY PROGRESS

100%

ACHIEVEMENTS

2/2

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