Bomberman

Bomberman wants to get home as fast as possible after finishing his shift in game saloon. There is a exit door in the level he is in but there are boxes in his way. Bomberman has limited bomb and wants to get exit door with m bomb or less. Help him find minimum step to going exit door by using at most m bombs.

Explosion effect of bombs are 1 cell up, down, left and right.

Bomberman can't move diagonally.

Input Format:

First line;

n- edge length of square shaped level,

m- bomb count,

ri,ci- initial coordinates,

rf,cf- exit coordinates.

Next n line;

n piece of "x"(block) or "."(empty).

Constraints:

$0 < n <= 250$
$0 <= m <= 150$
$0 <= ri, ci, rf, cf < n$

Output Format:

Minimum step count. If bomberman can't get to the exit "Impossible".

Sample Input 0:

5 2 0 0 0 4

.xxx.

.xxx.

..xxx

.x.x.

...xx

Sample Output 0:

12

Sample Input 1:

5 2 0 0 0 4

.xxx.

.xxx.

..xxx

.xxx.

...xx

Sample Output 1:

Impossible

Explanation 0:

He will start at (0,0) point and go to (4,0) point.