

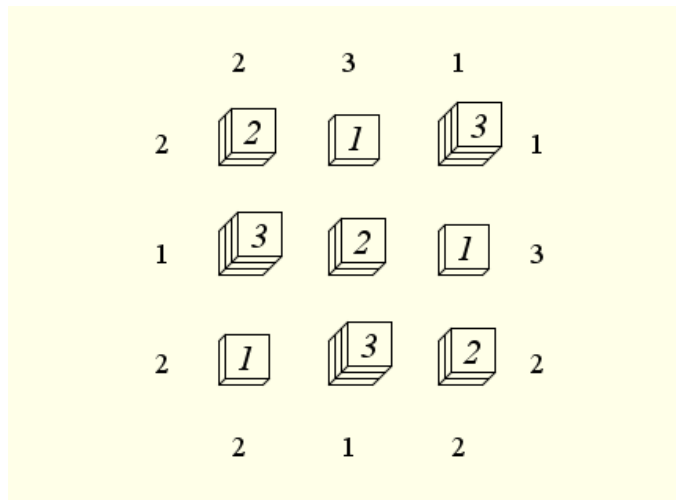
Skyscrapers



Imagine a well-designed city where all streets are either parallel or perpendicular. The city buildings are arranged in an $N \times N$ square of the following peculiar property: the number of floors in the buildings form a Latin square. A Latin square is an $N \times N$ array filled with N different symbols, each occurring exactly once in each row and exactly once in each column.

You are given the following clue: the numbers on the sides of the $N \times N$ square show how many buildings are seen from that point in the corresponding direction.

Example



You are only allowed to do one of the following puzzles; so, choose wisely.

When you have solved the puzzle of your choice, go to Room 141 of Jordan Hall to present your work to the Master Teacher. Be prepared to demonstrate your solution and explain your reasoning.

4 by 4 (Worth 1 jigsaw puzzle piece)

	1	3	3	2	
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
	3	2	1	3	

5 by 5 (worth 2 jigsaw puzzle pieces)

	3	2	2	1	3	
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
	2	4	3	3	1	

6 by 6 (worth 3 jigsaw puzzle pieces)

	4	2	3	3	1	4	
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3
	2	4	1	2	4	3	

7 by 7 (worth 4 jigsaw puzzle pieces)

	3	2	1	2	2	2	3	
3	□	□	□	□	□	□	□	3
4	□	□	□	□	□	□	□	3
5	□	□	□	□	□	□	□	3
2	□	□	□	□	□	□	□	2
6	□	□	□	□	□	□	□	1
1	□	□	□	□	□	□	□	2
2	□	□	□	□	□	□	□	3
	2	1	6	5	4	2	3	