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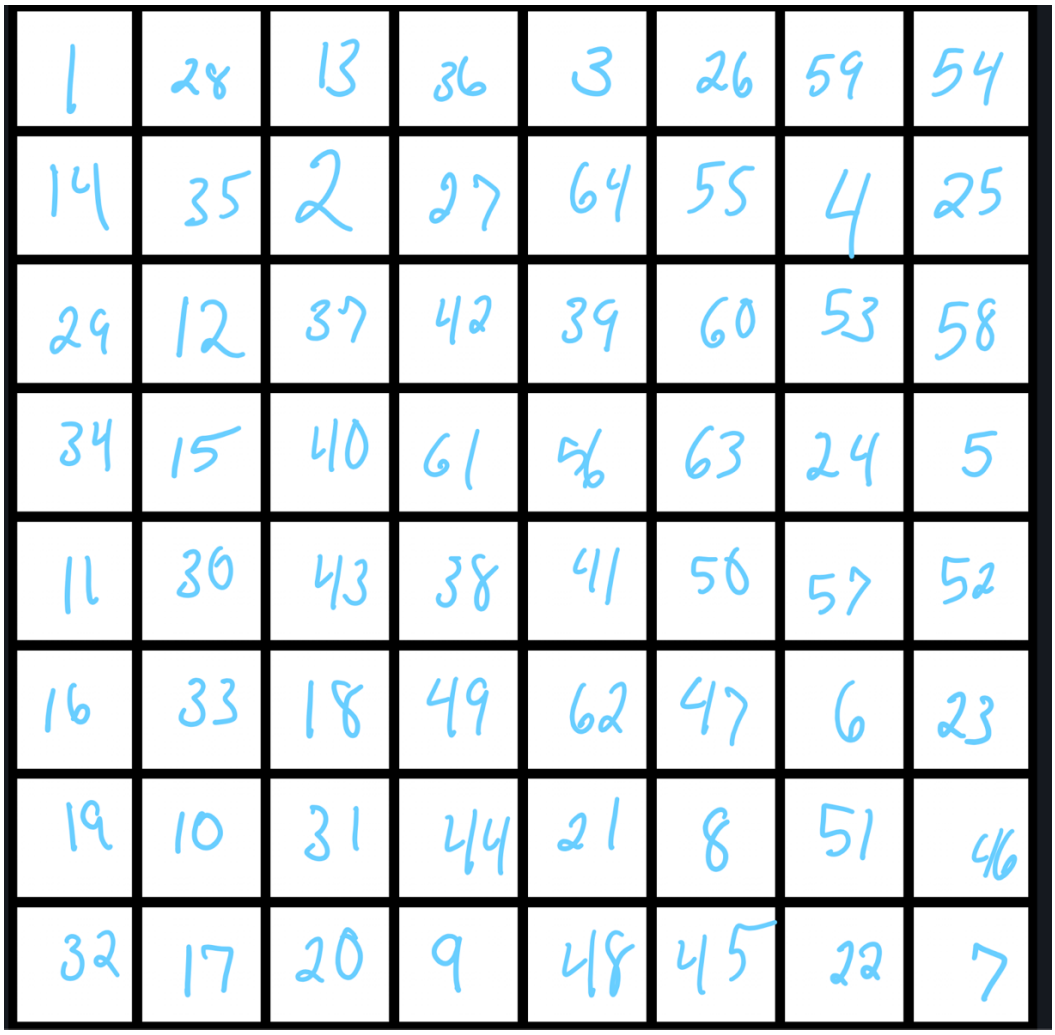
Professor Pinto
CS 341
Project 1

1. Knight's Tour is a problem that requires one to fill the whole chess board using one knight, thus at most there are 8 moves that can be made and at least 1 move until you reach square 64. One cannot travel back to a square that has already been visited, and you can only use the moves of a knight. There are different methods to solving this problem. The one that I used was to move to the square with the smallest number of moves that could be reached in the following moves. This means that one must start in one of the corners and then work their way across the board, keeping track of how many future moves could be made. I did this by marking the next move squares and then counting all the possible moves, noting them, and then once the square with the smallest number of possible moves was found, moving the knight to that one. In the end I was able to complete the Knight's Tour.



2. Case 1: 6 cities will run in < .0004 seconds
   Case 2: 10 cities will run in < 1 second
   Case 3: 12 cities will run in < 140 seconds
   Case 4: 15 cities will have to bail out