Knights Run Heuristic Approach

After attempting to write and run the Knights program, you have probably developed some valuable insights. You will use these insights to develop a heuristic (or strategy) for moving the knight. Heuristics do not guarantee success, but a carefully developed strategy greatly improves the chance of success. You may have observed that the outer squares are more troublesome than the squares nearer the center of the board. In fact, the most troublesome, or inaccessible, squares are the four corners.

Intuition may suggest that you should attempt to move the knight to the most troublesome squares first and leave open those that are easiest to get to so when the board get congested near the end of the run, there will be a greater chance of success.

We may develop an "accessibility heuristic" by classifying each of the squares according to how accessible they are, and then always moving the knight to the square (within the Knight's L-shaped moves, of course) that is most inaccessible. We label a 2-Demention array accessibility with numbers indicating from how many squares each particular square is accessible. On a blank chessboard, each center square is rated as 8, each corner square is rated as 2, and the other squares have accessibility numbers of 3, 4, or 6 as follows:

2	3	4	4	4	4	3	2
2	4	6	6	6	6	4	3
4	6	8	8	8	8	6	4
4	6	8	8	8	8	6	4
4	6	8	8	8	8	6	4
4	6	8	8	8	8	6	4
3	4	6	6	6	6	4	3
2	3	4	4	4	4	3	2

Modify your Knights Run program using the accessibility heuristic. At any time, the knight should move to the square with the lowest accessibility number. In case of a tie in accessibility numbers, the knight may move to any of the tied squares. Therefore, the run may begin in any of the four corners.