

Report

1. Things considered for part-2

Although I was not able to complete my assignment because of an interview which I had, I did give a thought on a couple of things for the assignment which are mentioned below:

- a. For dealing with large branching factor in first step, we can take advantage of symmetry if we are playing first i.e. the autoplayer is white. Since the initial setup and the board is symmetric, we can choose any one particular queen and create all possible moves. Further, we can even use the common first moves if we have a good understanding of the game which may not be a heuristic but more of intelligence.
- b. Some of the heuristic functions that I had thought of using are:
 - i. How spread out the queens are for a given configuration of the board. In other words, we calculate the Euclidean distance between each pair of queen and use it as a heuristic. The more spread out they are, the better.
 - ii. One other way can be calculating the number of arrows within a distance of either 1 or 2 unit from each of the queens. The more the arrows nearby, the worst the condition of autoplayer.
 - iii. Instead of counting the number of arrows nearby, we can also measure the average distance of an arrow from the queens.