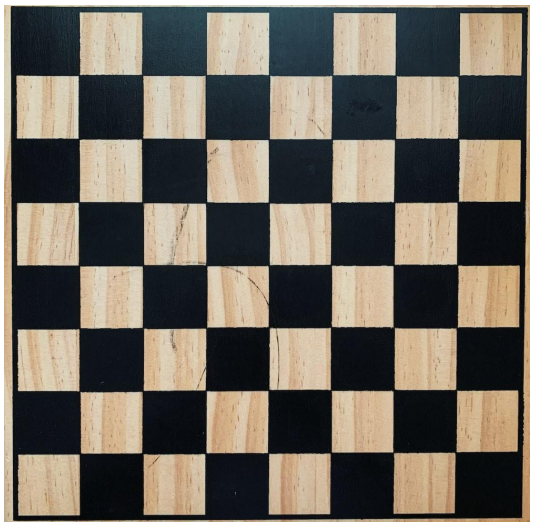
Artificial Intelligence Lab
Lab 4 Manual

[Submit your source file only
Name your file like this "regno1_regno2_lab4.cpp/py/c/java"]
***Report to me when you've completed any checkpoint*

Task:

You're given a state on the chessboard where 8 queens are placed. You may assume the top row as 1 and the bottom row as 8. If 8 queens, all are placed on the first row, the state is represented by {1,1,1,1,1,1,1,1}.
Now, an initial state is given for you is: {4,3,6,2,5,4,7,3}



Checkpoint 1: 40%

Perform a local search using the sum of the number of attacking queens for each queen as a heuristic value. Find the local minima value for this initial state.

Checkpoint 2: 30%

Perform 5 random starting to perform the local search. Find minima value for them. If solution is found for any, report.

Checkpoint 3: 30%

Take 2 states from previously generated random states having the lowest minima value (leave any state that leads to the solution state). Perform Genetic Algorithm taking 75% from the higher state and 25% from the lower state. Mutate 1 position. Then run local search and find minima.