

AI ASSIGNMENT 02

8 QUEENS PROBLEM USING GENETIC ALGORITHM

Step1:

Create Four Chess boards using `np.zeros(8,8)`.

Step2:

Place 1 (represents Queen) randomly in each column. Also convert the Chess board into list representation where the 8 digits for 8 columns represent the row in which the Queen is placed for each column.

Step3:

Compute Fitness Function for each board. i.e., Number of Queens that are not attacking. If the Goal is found (i.e., 8 Queens are not attacking), then stop.

Step4:

Keep the best 2 boards based on the Fitness Function.

Step5:

Generate 2 new offspring (Boards) using crossover and mutation.

- First perform Crossover.
- Then perform mutation on offsprings.

Repeat from Step3 to Step5 until the Goal is reached.

Final output should be the Final Board and the number of iterations to reach there.