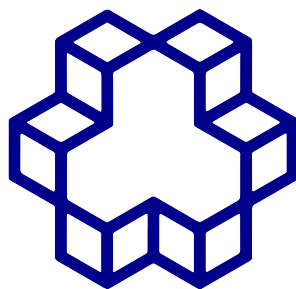

CODING ASSIGNMENT 4

Search in Complex Enviornments



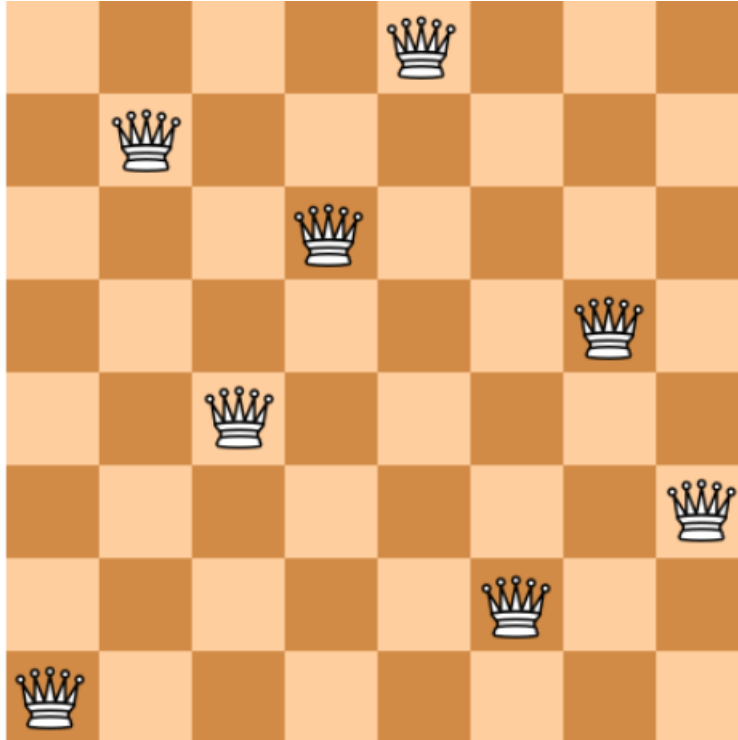
دانشگاه صنعتی خواجه نصیرالدین طوسی

Artificial Intelligence

Instructor: Dr.Pishgoo

TAs: Amirreza Mehrzadian, Alireza Saeednia

Deadline:



1 N Queen

In N-Queen problem, we are given an $N \times N$ chessboard and we have to place N number of queens on the board in such a way that no two queens attack each other. A queen will attack another queen if it is placed in horizontal, vertical or diagonal points in its way.

2 Task

Choose two of the algorithms below and solve 8 queen problem:

- Hill Climbing, steepest ascent
- Hill Climbing, First-choice
- Hill Climbing, Stochastic
- Simulated Annealing
- Genetic Algorithm

<https://www.javatpoint.com/hill-climbing-algorithm-in-ai> <https://www.kaggle.com/code/zzettrkalpakbal/tutorial-of-genetic-algorithm>
<https://machinelearningmastery.com/simulated-annealing-from-scratch-in-python/>