Evolutionary Computing - 2022

Assignment #1: 8 Queens Problem

Shiraz University

Due Date: 17/Nov

Place 8 queens on an 8x8 chessboard in such a way that they cannot check each other.

Apply GA with the following properties to this problem:

Representation	Permutations
Recombination	'Cut-and-crossfill' crossover
Recombination probability	100%
Mutation	Swap
Mutation probability	80%
Parent selection	Best 2 out of random 5
Survival selection	Replace worst
Population size	100
Number of offspring	2
Initialisation	Random
Termination condition	Solution or 10,000 fitness evaluations

Note that it is only one possible set of choices of parameters.

Notes:

- Your implementation should be functional.
- You should write a complete report for the results you get.
- Allowed programming languages: Python, MATLAB, Java, ...
- Any sign of cheating would be result in the zero grade for the assignment.
- Your codes should be self-commented.
- Send you codes in a ZIP file named "LASTNAME - FIRSTNAME.zip"