

Subject - Assignment : AI – Genetic Algorithm

Name : Aji Bambang Sasongko

Student Number : 16357908

Code Link : <https://github.com/ajibambang/Genetic-Algorithm-Schedule>

Questions

1. What were the challenges in writing the program? Or did it seem to go smoothly from the beginning?
 - ⇒ Based on my experience, I've got confused by method implementation and what function that I should build. For me, I need to search for example code and try to implement to recent problems. Also I was confused by how to do right adjustment and build the structure.
2. What do you think of the schedule your program produced? Does it have anything that still looks odd or out of place?
 - ⇒ I think my generated schedule met all requirements for each class, I have try to sample one output and seems everything looks good based on time, room, preferred lecturer/instructor, except the best fitness score that looks to high.
3. How would you improve the program, or change the fitness function?
 - ⇒ It might be useful to add dynamic parameters to improve adaptability of the system and also improve optimization by comparing dynamic parameters. And maybe we can use simulated annealing to make new impuls to improve best fitness score.
4. Anything else you feel like discussing, asking about, bragging about, etc.
 - ⇒ I'd like to leaarn more about methods to optimize genetic algorithm, how it does affect, and other implementations related to genetic algorithm.

Output example

Generation 88 - Best Fitness: 50.699999999999996
Generation 89 - Best Fitness: 50.699999999999996
Generation 90 - Best Fitness: 50.699999999999996
Generation 91 - Best Fitness: 50.699999999999996
Generation 92 - Best Fitness: 50.699999999999996
Generation 93 - Best Fitness: 50.699999999999996
Generation 94 - Best Fitness: 50.699999999999996
Generation 95 - Best Fitness: 50.699999999999996
Generation 96 - Best Fitness: 50.699999999999996
Generation 97 - Best Fitness: 50.699999999999996
Generation 98 - Best Fitness: 50.699999999999996
Generation 99 - Best Fitness: 50.699999999999996
Generation 100 - Best Fitness: 50.699999999999996
Best Schedule:
SLA100A - Location: Roman 201, Hour: 2 PM, Instructor: Banks
SLA100B - Location: Roman 201, Hour: 12 PM, Instructor: Banks
SLA191A - Location: Loft 310, Hour: 1 PM, Instructor: Numen
SLA191B - Location: Roman 201, Hour: 2 PM, Instructor: Zeldin
SLA201 - Location: Loft 206, Hour: 1 PM, Instructor: Banks
SLA291 - Location: Slater 003, Hour: 1 PM, Instructor: Zeldin
SLA303 - Location: Loft 310, Hour: 2 PM, Instructor: Zeldin
SLA304 - Location: Beach 201, Hour: 11 AM, Instructor: Banks
SLA394 - Location: Loft 206, Hour: 3 PM, Instructor: Richards
SLA449 - Location: Loft 206, Hour: 3 PM, Instructor: Shaw
SLA451 - Location: Loft 310, Hour: 12 PM, Instructor: Tyler
Best Fitness Score: 50.699999999999996

Minimum Fitness Score : 48.099999999999994

Maximum Fitness Score : 50.699999999999996

A	B	C
Generation	Best Fitness Score	
	1	48.099999999999994
	2	48.099999999999994
	3	48.3
	4	48.8
	5	49
	6	49
	7	49.499999999999999
	8	49.499999999999999
	9	49.499999999999999
	10	49.499999999999999
	11	49.499999999999999

best_schedule.txt - Notepad

File Edit Format View Help

Best Schedule:
SLA100A - Location: Roman 201, Hour: 2 PM, Instructor: Banks
SLA100B - Location: Roman 201, Hour: 12 PM, Instructor: Banks
SLA191A - Location: Loft 310, Hour: 1 PM, Instructor: Numen
SLA191B - Location: Roman 201, Hour: 2 PM, Instructor: Zeldin
SLA201 - Location: Loft 206, Hour: 1 PM, Instructor: Banks
SLA291 - Location: Slater 003, Hour: 1 PM, Instructor: Zeldin
SLA303 - Location: Loft 310, Hour: 2 PM, Instructor: Zeldin
SLA304 - Location: Beach 201, Hour: 11 AM, Instructor: Banks
SLA394 - Location: Loft 206, Hour: 3 PM, Instructor: Richards
SLA449 - Location: Loft 206, Hour: 3 PM, Instructor: Shaw
SLA451 - Location: Loft 310, Hour: 12 PM, Instructor: Tyler