

Task 2 Lucky Dog

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Algorithm:

1. Create 100 chromosomes at random where each chromosome contains 1000 gens. Each gen can have the next value: 1(go up), 2(go down), 3(go left), 4(go right)
2. Fitness is the number of steps to sausage - the less the better.
3. Start position of the dog is 500;500
4. Position of the sausage is 800;800
5. Pick 3 best dogs (which have the shortest route). Create graph on which display these routes
6. Produce populations of dogs until we get the dog which will reach the sausage.

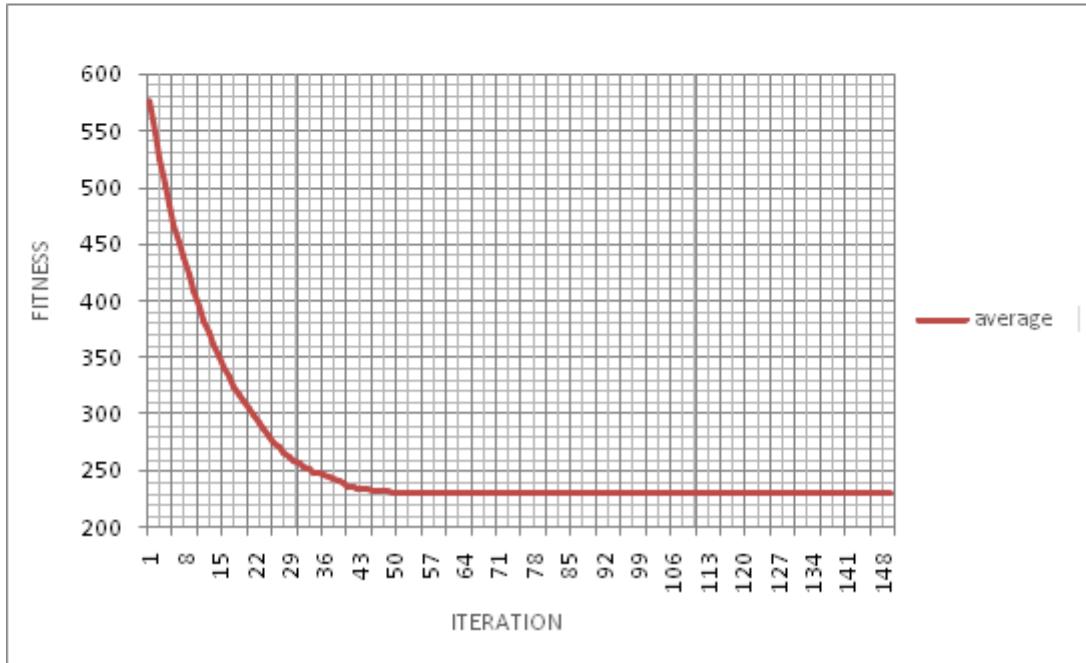
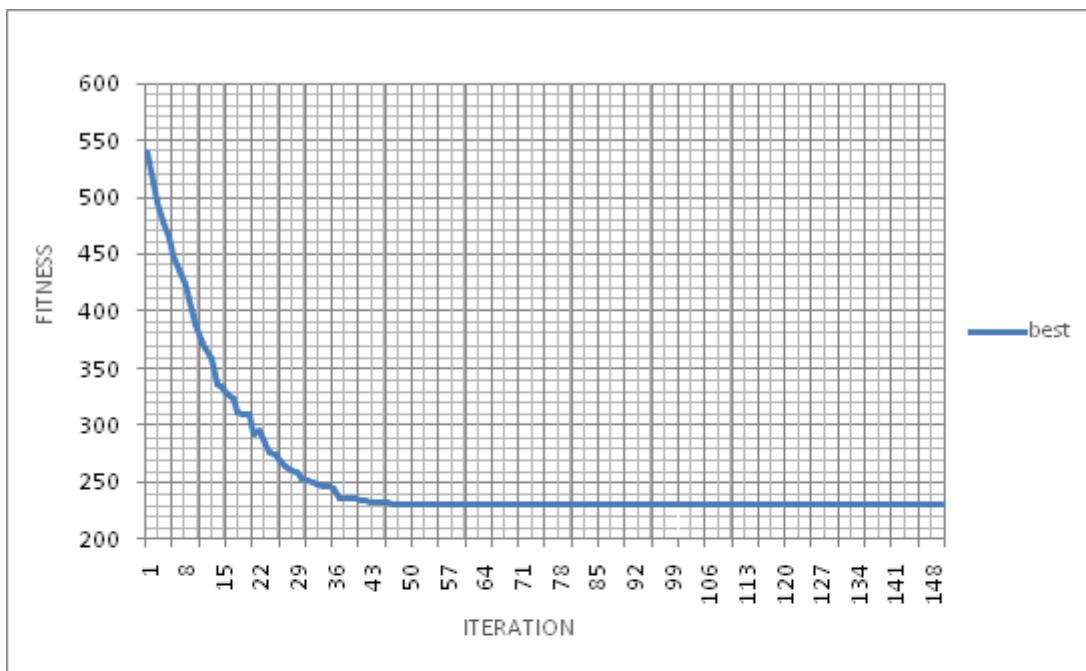
Results:

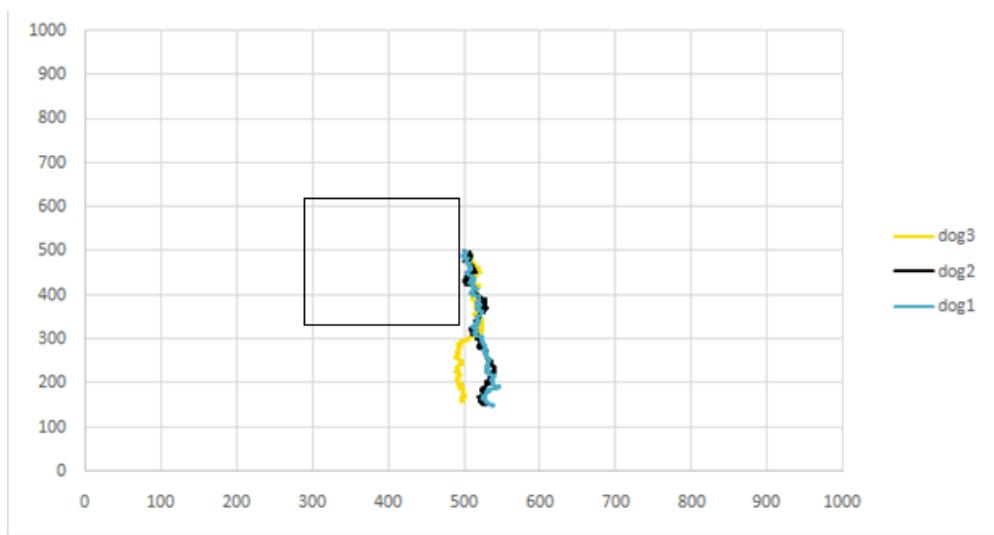
For one-point-crossover

Fitness vs Iteration

3 Best dog's route

Iteration 1:

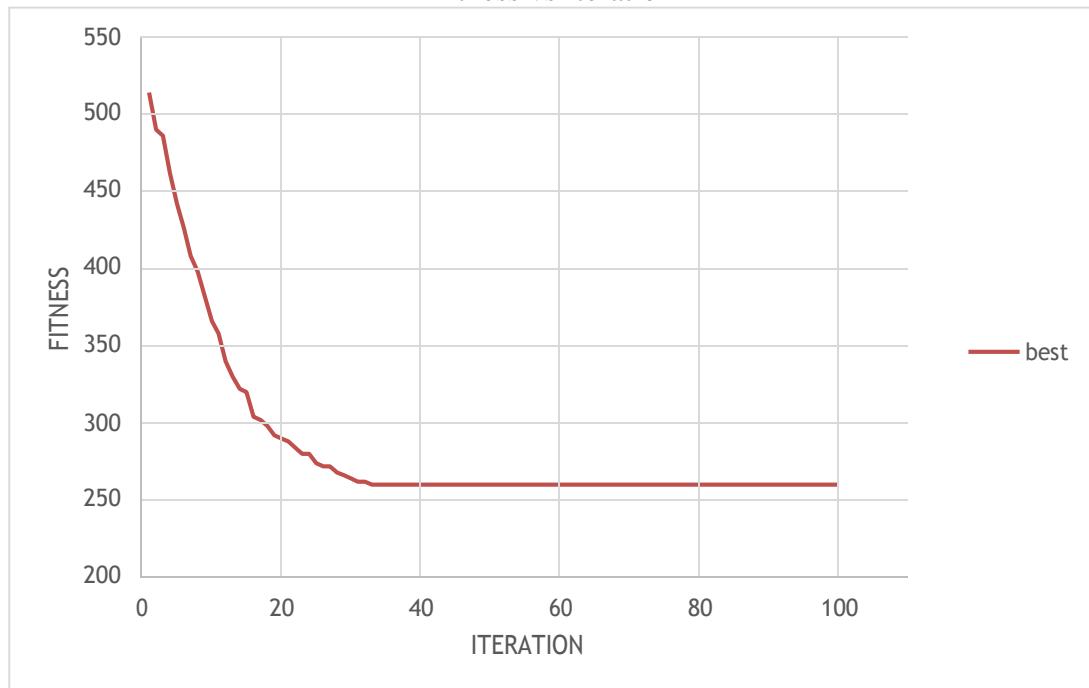


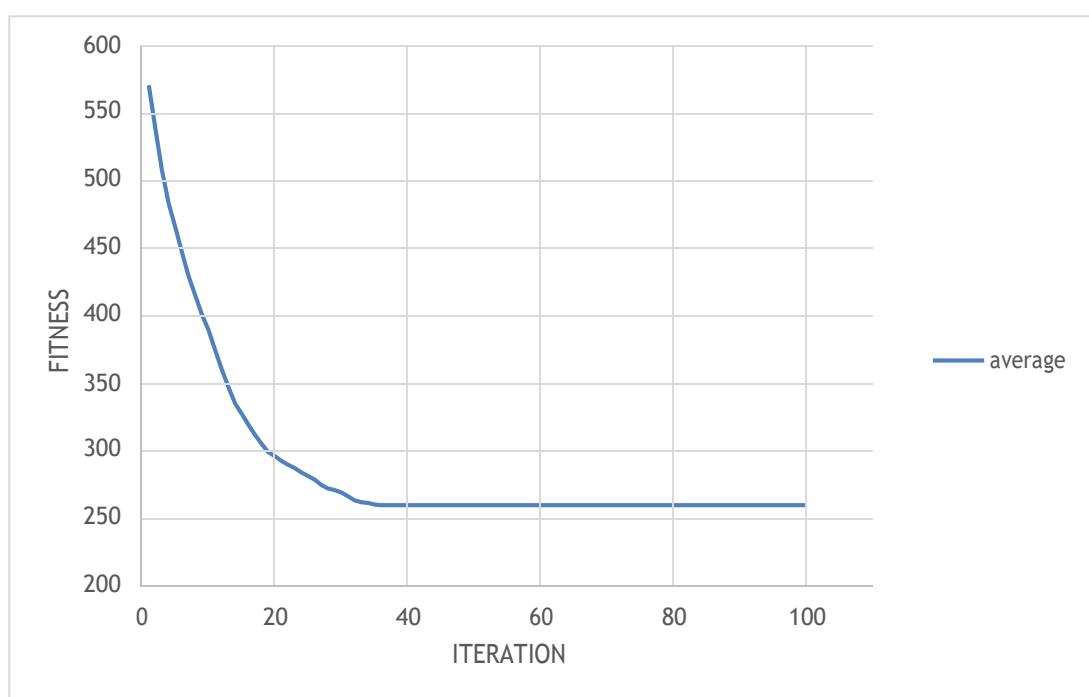


Iteration 75:

Iteration 150:

For uniform crossover:
Fitness vs Iteration





3 Best dog's route
Iteration 1:

