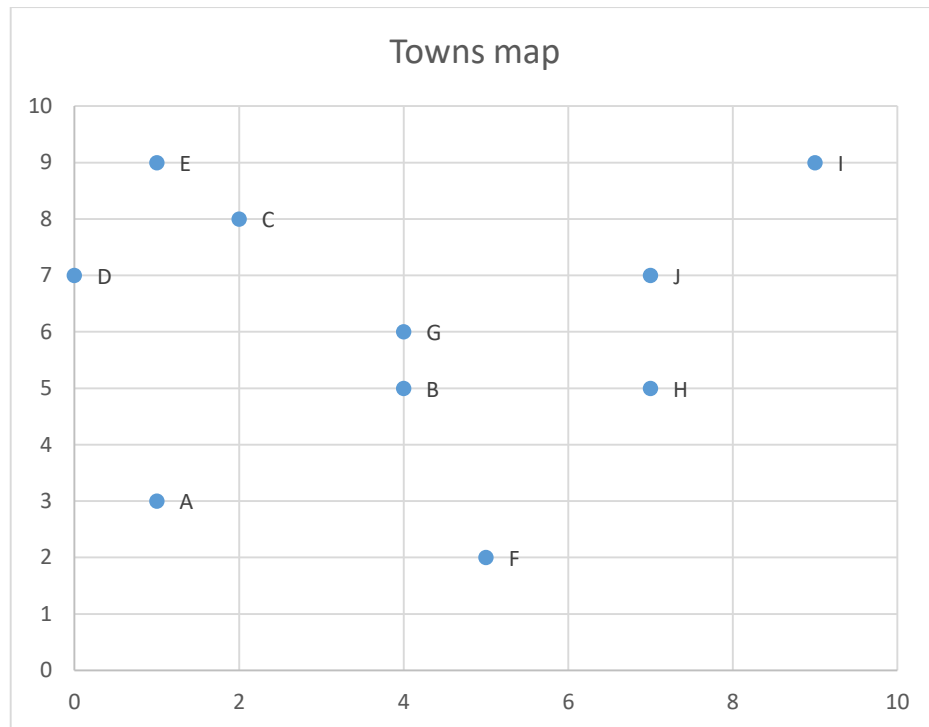


1) First Scenario:

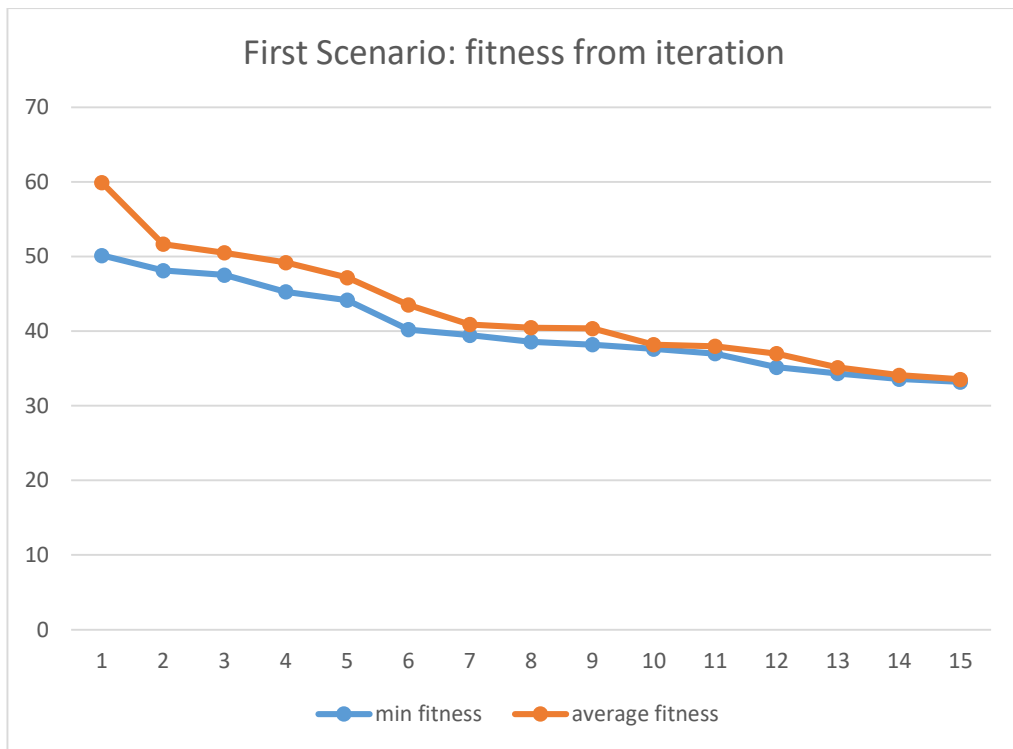
Size of population – 100;
 Size of chromosome – 9;
 Mutation percent – 0.01;
 Multi -point crossover with 2 crossover random point;
 Truncate selection mode;
 Random towns;

Towns map:

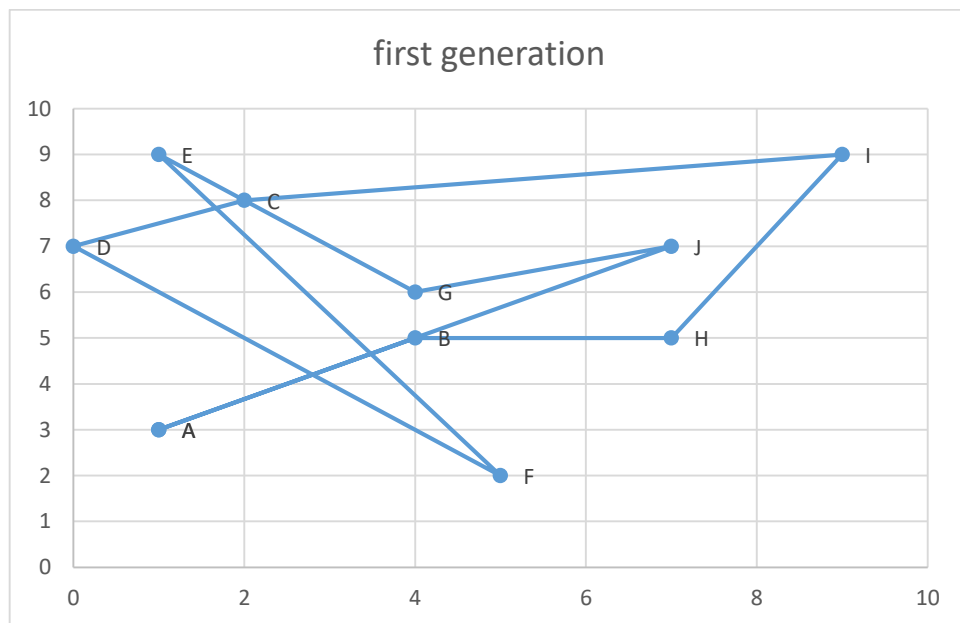


Route matrix:

0	3,60555	5,09902	4,12311	6	4,12311	4,24264	6,32456	10	7,2111
3,60555	0	3,60556	4,47214	5	3,16228	1	3	6,40312	3,16228
5,09902	3,60556	0	2,23607	1,41421	6,7082	2,82842	5,83095	7,07107	5,09902
4,12311	4,47214	2,23607	0	2,23607	7,07107	4,12311	7,28011	9,21954	7
6	5	1,41421	2,23607	0	8,06226	4,24264	7,211103	8	6,32456
4,12311	3,16228	6,7082	7,07107	8,06226	0	3,87298	3,60555	8,06226	5,38516
4,24264	1	2,82842	4,12311	4,24264	3,87298	0	3,16228	5,83095	3,16228
6,32456	3	5,83095	7,28011	7,211103	3,60555	3,16228	0	4,47214	2
10	6,40312	7,07107	9,21954	8	8,06226	5,83095	4,47214	0	2,82842
7,2111	3,16228	5,09902	7	6,32456	5,38516	3,16228	2	2,82842	0

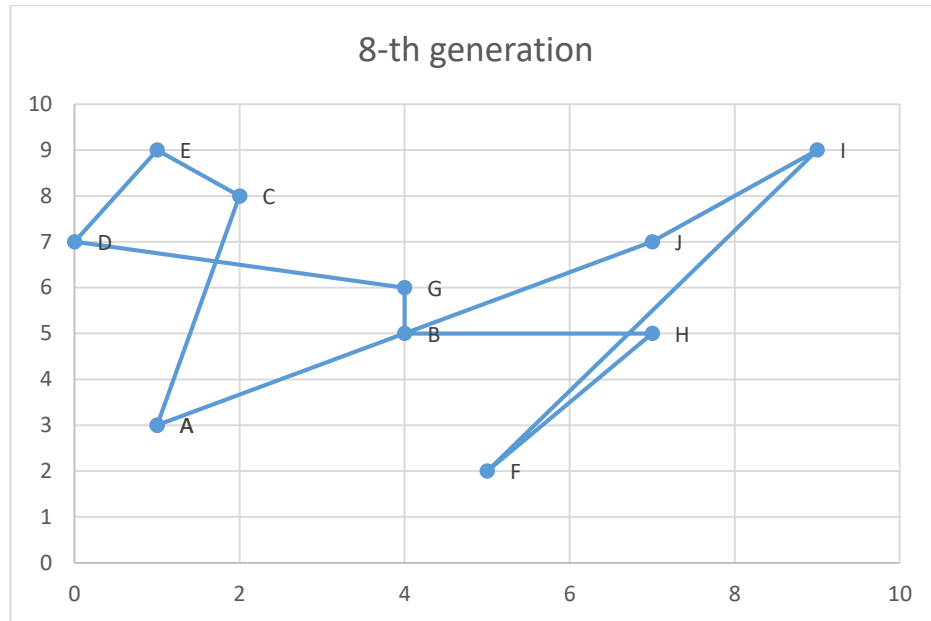


The best route in first generation:



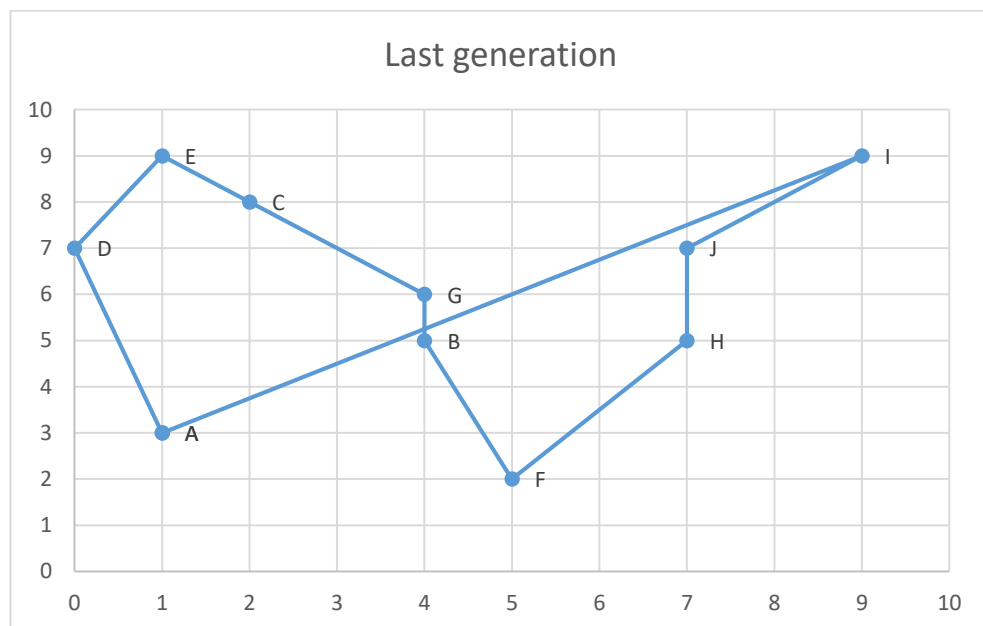
Path: A -> B -> H -> I -> C -> D -> F -> E -> G -> J -> A

The best route in intermediate generation (8):



Path: A -> C -> E -> D -> G -> B -> H -> F -> I -> J -> A

The best route in last generation:



Path: A -> D -> E -> C -> G -> B -> F -> H -> J -> I -> A

2) Second Scenario:

Size of population – 100;

Size of chromosome – 9;

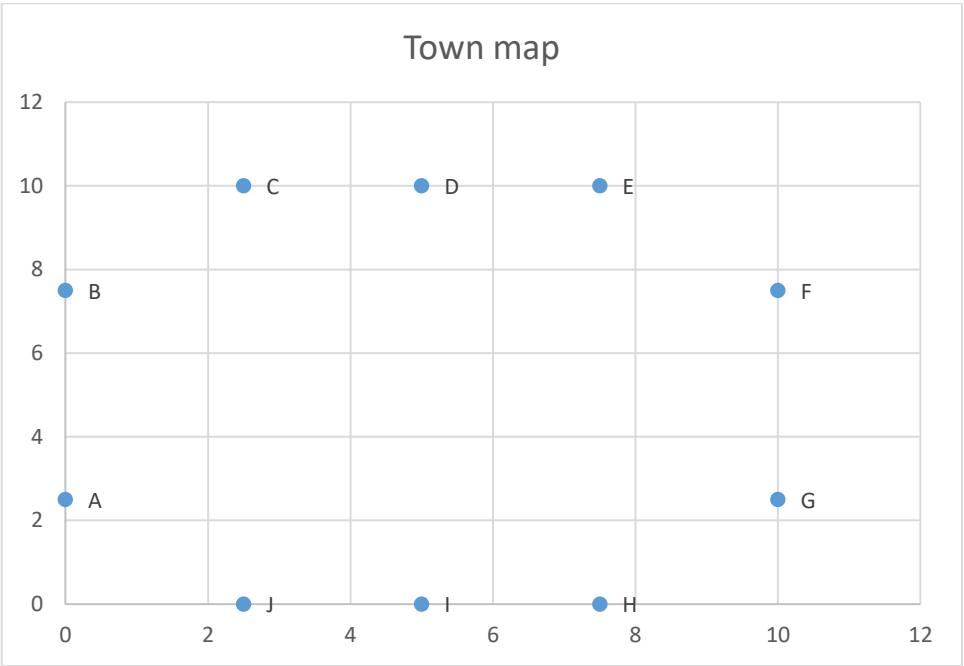
Mutation percent – 0.01;

Multi -point crossover with 2 crossover random point;

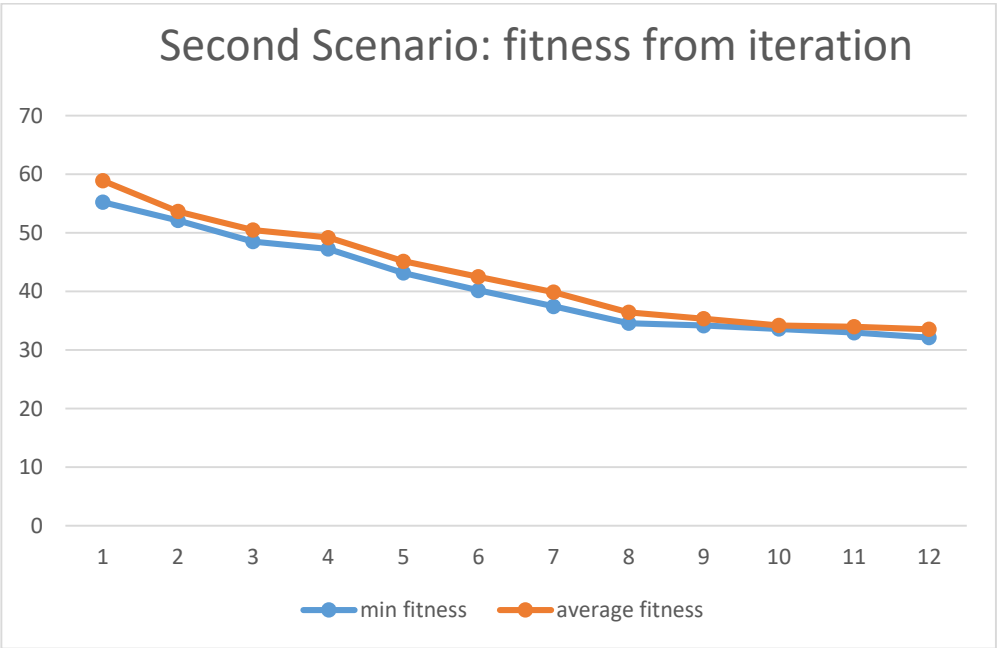
Truncate selection mode;

Circle towns;

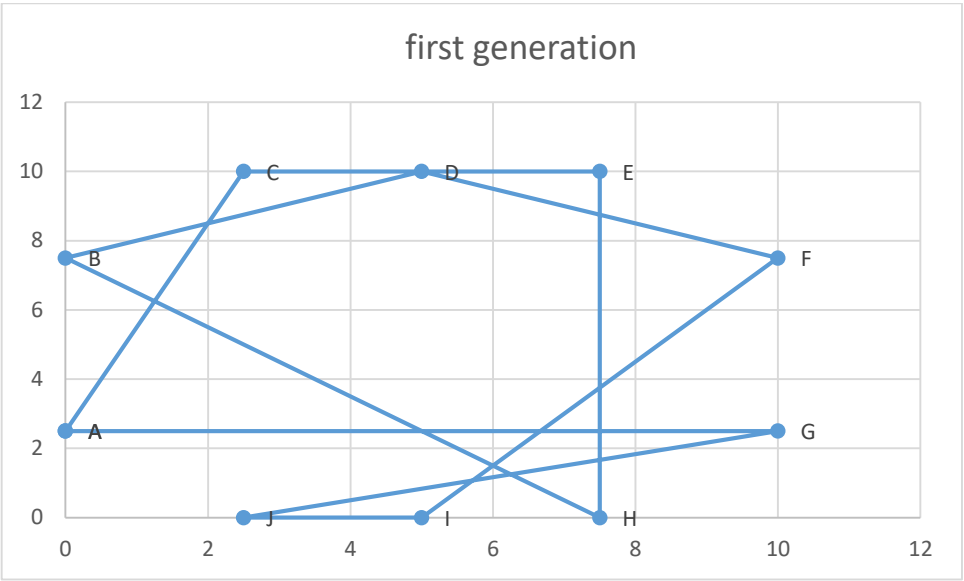
Towns map:



Fitness and average fitness:

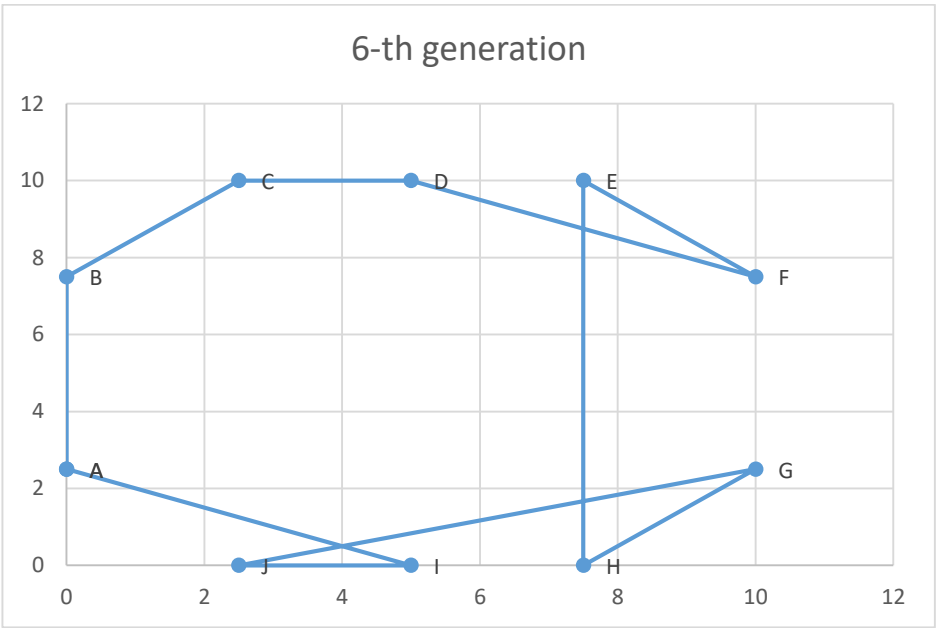


The best route in first generation:



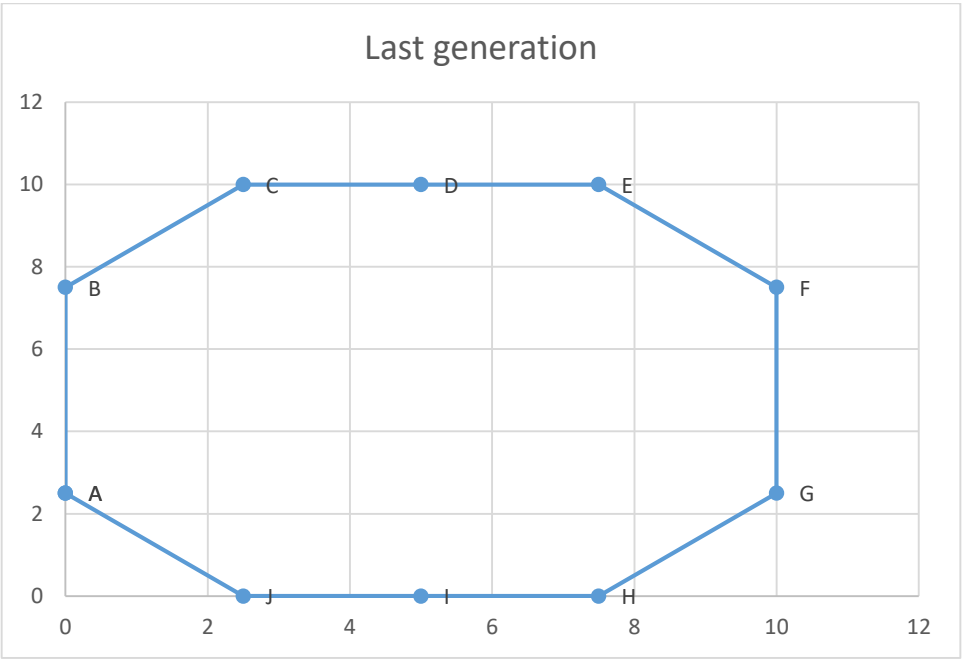
Path: A -> C -> E -> H -> B -> D -> F -> I -> J -> G -> A

The best route in intermediate generation (6):



Path: A -> B -> C -> D -> F -> E -> H -> G -> J -> I -> A

The best route in last generation:



Path: A -> B -> C -> D -> E -> F -> G -> H -> I -> J -> A