Evolutionary Computation Theory and Application
Assignment 2: Traveling Salesman Problem

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1 Solution

Parameter	**Value**
Population size	100
Crossover Rates	0.01, 0.1, 0.99, **0.98**
Mutation Rates	0.01, 0.1, 0.99, **0.25**
Repetitions	30
Generations	1000
Average best fitness	58.8038
Best fitness	53.6009

Table 1: Parameters for Experiments

Parameter	**Value**
Population size	100
Fitness	50.7048
Generations	3000
Crossover rate	0.99
Mutation rate	0.1

Table 2: Parameters for Absolute best result

2 Results

Figure 1: Absolute best map

2.1 Different mutation rates

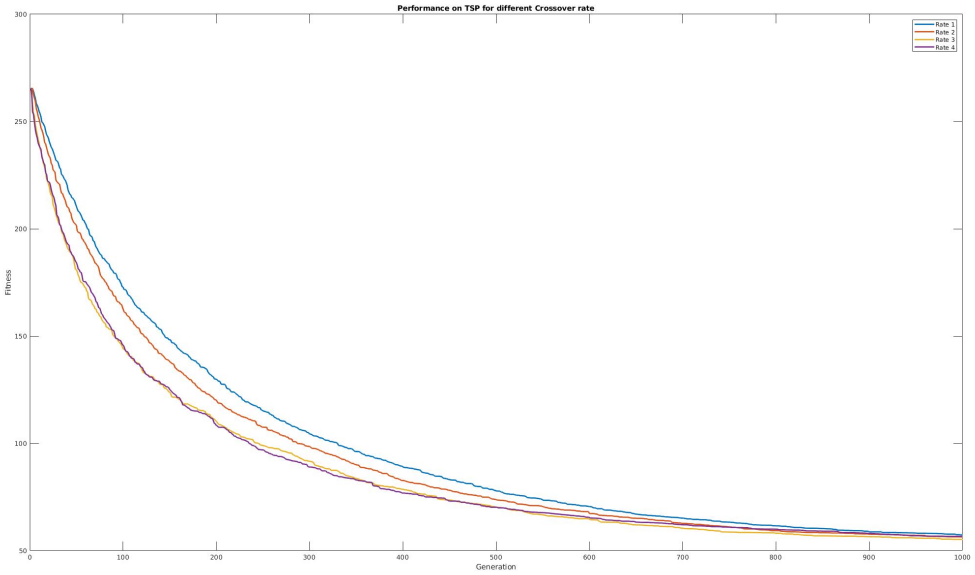

Figure 2: Crossover rate comparision

Describe and explain the different mutation rates and how they influence the learning behaviour. Please remember to also focus on why, not only on what. Also elaborate on the mutation rate you have chosen as best mutation rate.

2.2 Different crossover rates

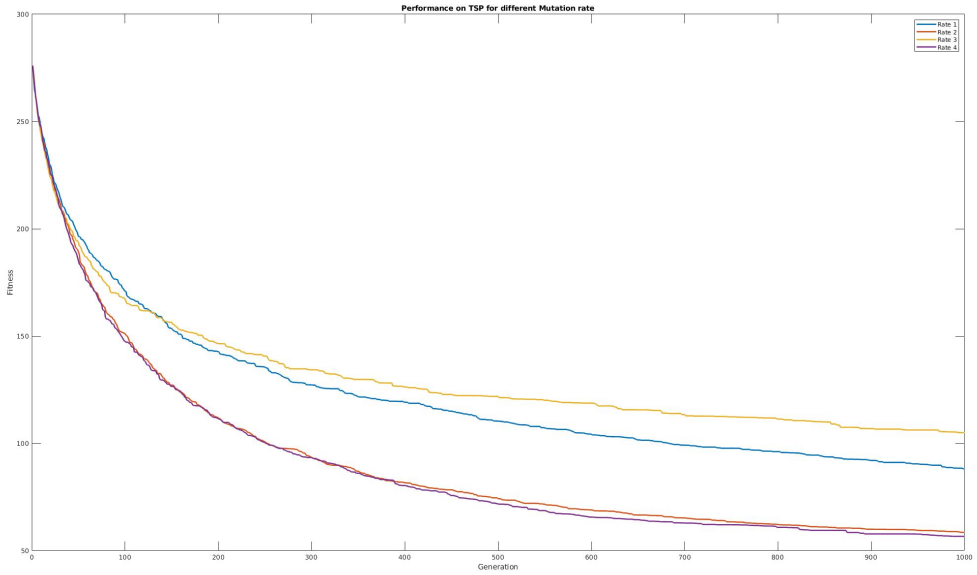

Figure 3: Mutation rate comparision

Describe and explain the different crossover rates and how they influence the learning behaviour. Please remember to also focus on why, not only on what. Also elaborate on the crossover rate you have chosen as best mutation rate.

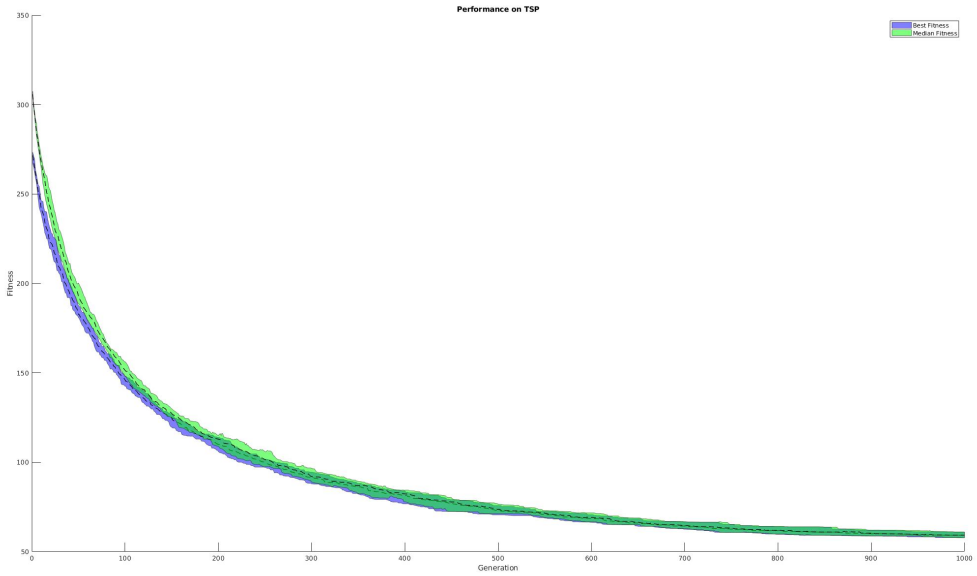

Figure 4: Best and median fitness over 30 Experiments