

Assignment1

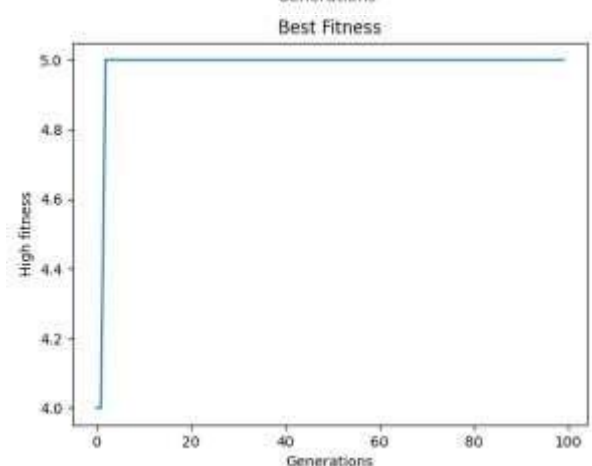
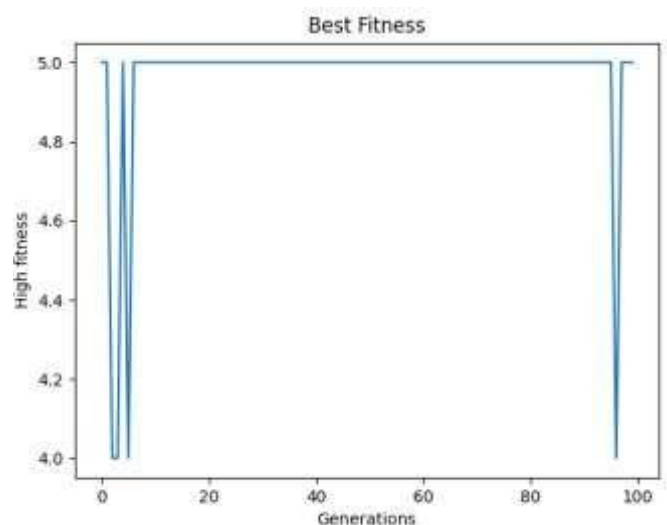
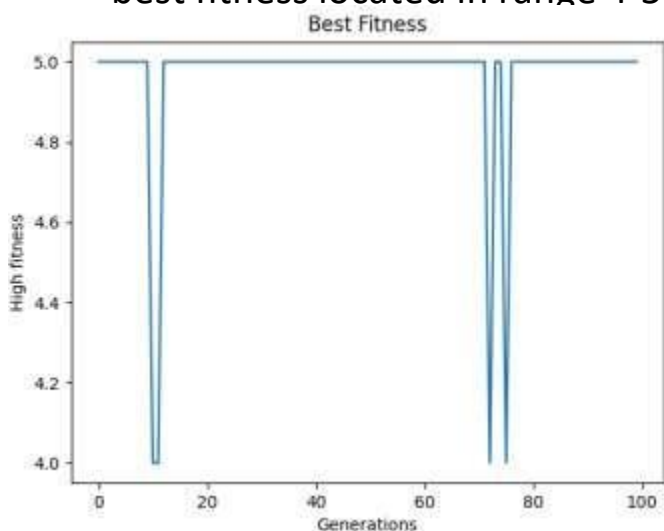
Steps:

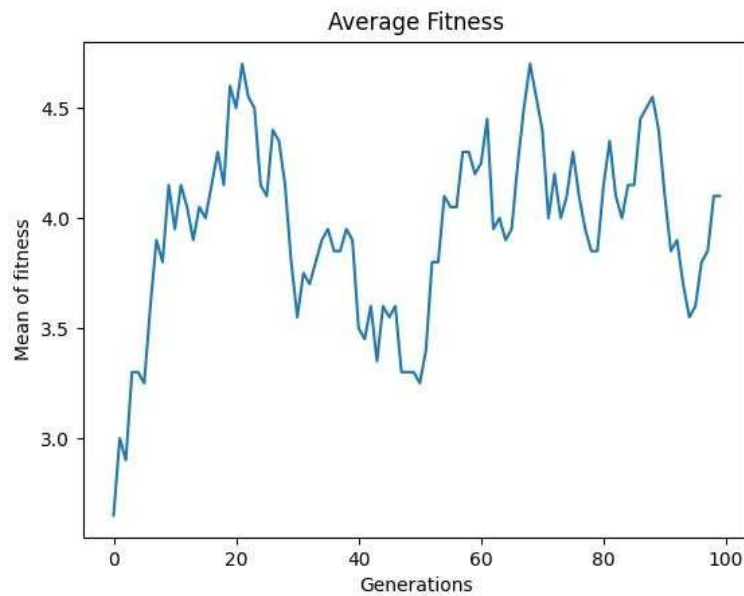
1. Generate random 2D array 20*5.
2. Evaluate the fitness.
3. Choose two parents for a new population by Roulette Wheel selection.
4. Do crossover to get a new generation.
5. Mutation for the children.
6. Store them in a new 2D array for the new population.
7. When we use elitism, we store the best two individual fitness in the new generation.

Without elitism:

-In best fitness, we notice that the low fitness individual may come from high one and may not.

-best fitness located in range 4-5.

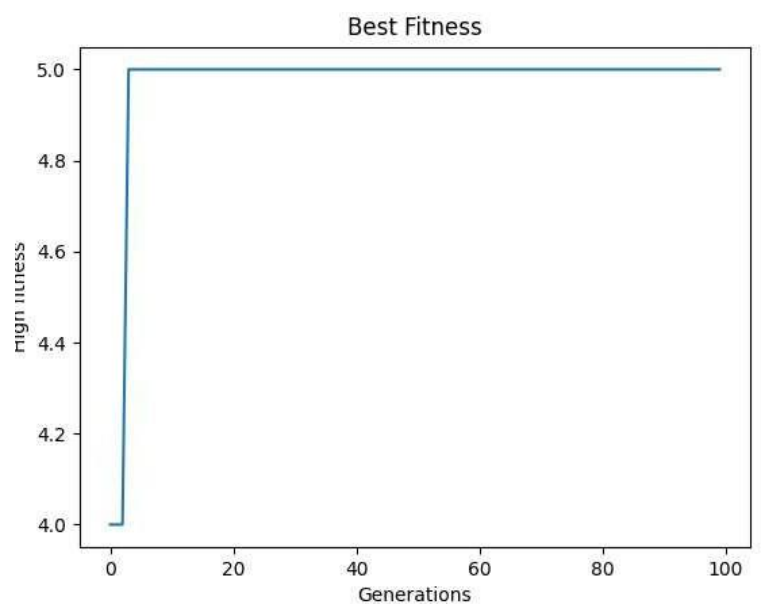
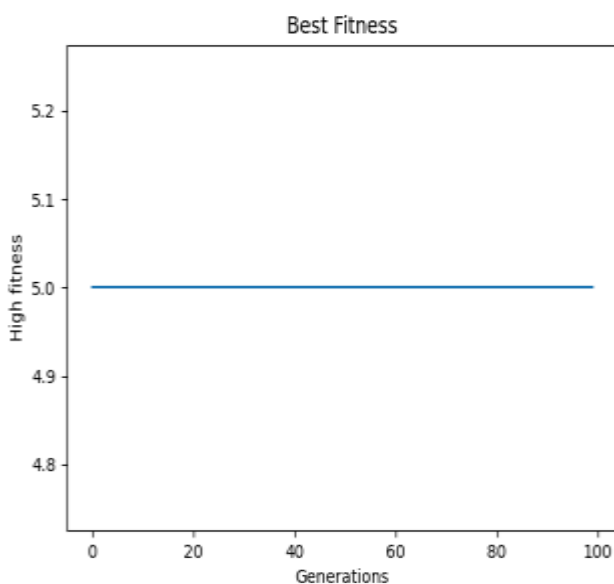




With elitism:

-In the best fitness over all generation, I noticed that when one generation has individual with a fitness score 5 , all generation after it would have this optimal chromosome.

-best fitness located in range 4-5 and it might be 5 for all generations.



- It is easy to get your optimal individual over all generations.
- In average fitness, we can notice that we can get generation with low fitness after generation with higher fitness.
- by comparing with the first case, you can see that average is higher with elitism because of keeping the best 2 individual fitness in each generation.

