Report

**Explain how many generations your GA needs to run for in order for you to be confident of the solution. Explain the population size you chose, why did you choose it? Explain the mutation rate you chose, why did you choose it?**

I have calculated the average of generations so I come to conclusion that at least 42 generations my algorithm needs to be fully confident on solutions as population is usually randomly generated and can be any desired size, from only a few individuals to thousands.

Mutations rate is 0.035 that I have chosen it is low because when we increase mutation rate then generation increases and we need it to be low to manage population under 50 and also we need to add a little bit randomness into our populations' genetics otherwise every combination of solutions we can create would be in our initial population. Mutation typically works by making very small changes at random to an individual’s genome.

**Run it multiple times, does it always find the same solution?**

I have run my algorithm more than 20 time and get different results so it does not return the same result at every time