1. Try evolving a solution using just mutation (no crossover) 10 (or more) times. How many generations does it appear to take to evolve a solution? How much variation is there in the number of generations taken from run to run? Is this more or less than you expected (both how many generations and the variation in required generations between runs)?

answer

2. Repeat experiment #1, but use crossover (single crossover point) and mutation. What do you think will happen? How many generations does it appear to take to evolve a solution? What can you conclude from this?

answer

3. Repeat experiment #1, but with ONLY crossover (single crossover point) meaning you should set the mutation rate to 0. What do you think will happen? Run the experiment and report on your findings. Write down your best explanation of the results.

answer

4. Try different variations of parameters and turn mutation and crossover on and off in conjunction with different selection methods. (In particular, you might try experiments 1/2/3 with rank selection and Roulette Wheel) Do you find anything surprising? (You do not have to provide plots of all the experiment you run here, but select the most interesting ones to report on)

answer