RESPONSE SHEET

GENETIC ALGORITHM TASK

- Ordered by -> **markkerberos**
- Delivery date -> **22 Dec, 13:29**
- **Completed Date -> 20 Dec, 20:13**
- Total price -> **US$113**
- Order number # **FO511E45C8D83**

Requirements

Q1. Implement Genetic Algorithm except Matlab Bulitin GA function
Q2. No need to change *simulate_ant.m*
Q3. make use of appropriate crossover and mutation operators
Q4. Implementation should be done in Matlab 2020a
Q5. The codes should be run by pressing MATLAB RUN bottom
Q6. The output should be two plots
Q7. At the beginning, the code should ask the user for using a default setting
Q8. If the user chooses the default setting, then the code should output 1
Q9. If the user chooses the optional setting, these should be asked from user:
    a. Selection,
    b. Cross-over
    c. Mutation
    d. Generations
Q10. Code should run for around 10 seconds

Response

A1. Genetic Algorithm is implemented.
A2. No change in simulate_ant.m.
A3. Appropriate Crossover and mutation operators are used.
A4. Done in Matlab 2020a.
A5. Codes are running by Press Run only.
A6. Output is two plots (one additional plot is also shown for mori-trail too).
A7. Code is asking for default and optional at start.
A8. If user chooses 1, the code will run on default setting.
    a. Roulette Wheel Selection
    b. Single Point Crossover
    c. Random Point Flip Mutation
    d. 5000 Generation

A9.If user chooses 2, the code will ask for further optional from

a. Selection (Roulette Wheel, Tournament, Rank)
b. Crossover (Single Point, Uniform, Double Point)
c. Mutation (Random Flip, Probability)
d. How much generations?

A10. Codes are running under 10 secs, depending on No of generations selected

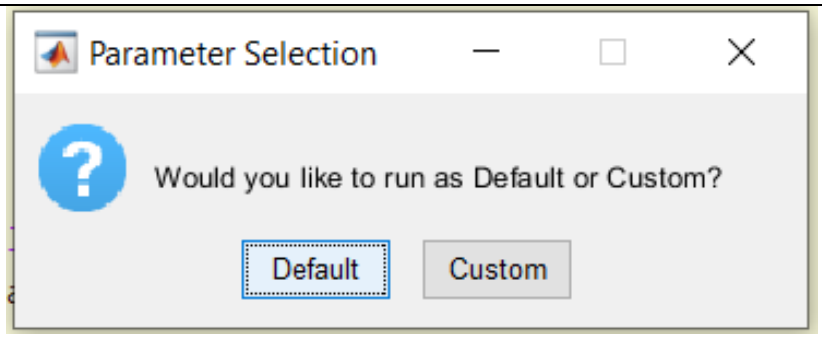

Figure 1 First Question Dialogue for Default or Optional Setting

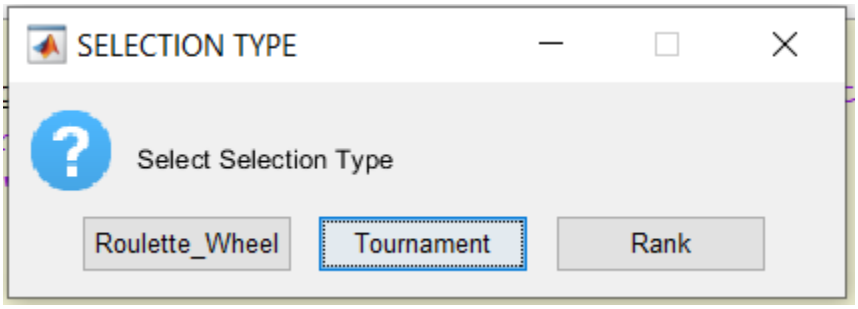

Figure 2 Asking for Selection Type

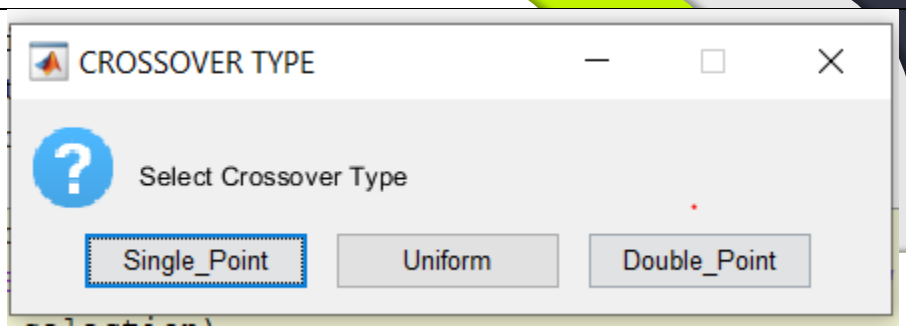

Figure 3 Asking for Crossover Type

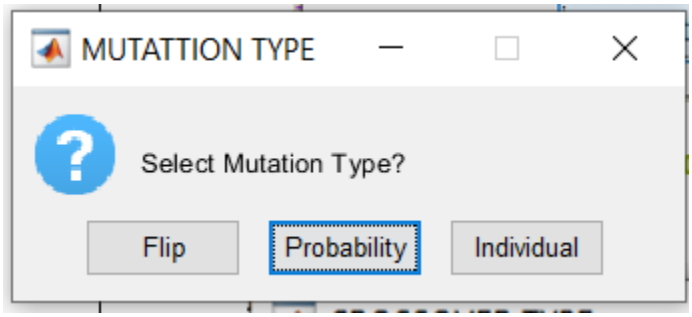

Figure 4 Asking for Mutation Type

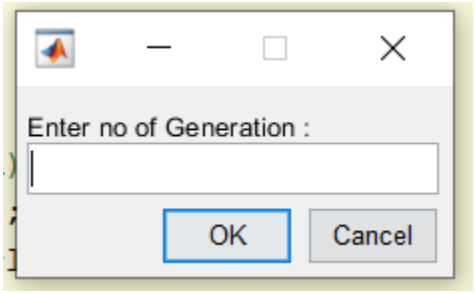

Figure 5 Asking for No of generations

Figure 6 Plot 2 for Showing Fittest Ant in Each Generation

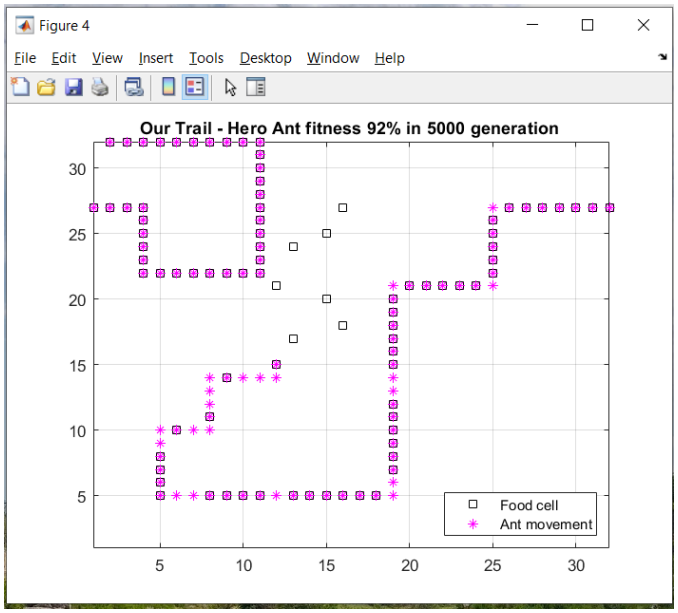

Figure 7 Plot no 2 for Showing Trail of Fittest Ant Movement

Instruction:

To Test for best results, run “test_main_GA” function and select mat file of 92% saved into Mat Files folder in attachment and the alternative and best route will be plotted with 92%.

Customers greater satisfaction is all of my achievement. Looking for some good comments from you

Regards**: Rashid Rao**