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Data Structures and Algorithms 2

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Project 3

User Manual

**Setup and Compilation**

1. Download and unzip the submission and run on a Linux machine.
2. The submission includes:
   1. Main.cpp
   2. AdjacencyMatrix.cpp/hpp
   3. Makefile
   4. UserManual.docx (this file)
   5. Project 3 UML.png
   6. ExcelSheet.xcl
3. Environment: This program has been tested on Ubuntu 18.04.3 LTS
4. Compiling: This program includes a Makefile. In the Linux command line, type “make” to compile object files.

**Running the program:** After compiling, simply type “./main” to call the main function and run the program.

**User input:** The user provides 4 numbers: number of cities, number of individual tours, number of generations to run, and percentage of mutations of each generation.

**Output:**

Final output prints to console. It will look like this:

Please enter number of cities to run:

10

How many individual tours are given in a generation:

100

Please enter how many generations to run:

5

Please enter what percentage of generation should be comprised of mutations:

20

The number of cities ran is: 10

The optimal cost of brute force is: 360.26

It took: 1.78758 seconds

The cost from the generational model is: 455.99

It took: 0.000689273 seconds

Percent of optimal that the GA produced: 126.572%