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**Data Structures and Algorithms II**

**Project 3**

**User's Manual**

Setup and Compilation

1. Download and unzip the submission from Canvas on a Computer of your choosing.

2. The submission includes:

* Parse.hpp
* GeneticAlgorithm.hpp
* Simulation.hpp
* main.cpp
* Parse.cpp
* GeneticAlgorithm.cpp
* Simulation.cpp
* Makefile
* UsersManual (THIS FILE)
* Resultsfile.xlsx
* UMLDiagram.dia

3. Environment: This program has been tested in Visual Studio Code and Linux for cs-ssh.uwf.edu

4. Compiling. Import this project into Linux. The program will run correctly there.

5. Running the program. Issue the command ./run to run the program

Note: No special formatting required

User input: User can input the values desired when prompted.

Output: ALL OUTPUT will be on the console. Here is an example of the output

[ab236@cs-ssh Project3ADS2]$ ./run

Please enter the number of cities to run:

10

Please enter the number of tours:

100

Please enter the number of generations to run:

100

What percentage of a generation should be comprised of mutations?

1

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Number of cities run: 10

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It took the Genetic algorithm: 0 seconds and 721636 microseconds.

Genetic algorithm cost: 387.52

It took the Brute force algorithm: 1 seconds and 623711 microseconds.

Optimal Brute force cost: 360.26

The Genetic algorithm produced a solution that is 107% of the optimal solution.