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**Data Structures and Algorithms II**

**Project 3**

**User's Manual**

**Setup and Compilation**

1. Download and unzip the submission from eLearning on a Linux box in the multi-platform lab.
2. The submission includes:

Shell.cpp

* + Shell.hpp
  + CityGraph.hpp
  + CityGraph.cpp
  + Timer.cpp
  + Timer.hpp
  + main.cpp
  + TSPAlgorithms.cpp
  + TSPAlgorithms.cpp
  + UsersManual.docx (this file)
  + UMLDiagram.pdf
  + distances.txt
  + Makefile

1. Environment: This program has been tested on the SSH server and will run there.
2. Compiling. This program includes a Makefile. At the command line in Linux, type make. The program produces an executable entitled main. In order to remove the executable as well as all the object files type make clean.

**Running the program**. Be suredistances.txtis in the samedirectory as the executable. Issue the command ./main No command line arguments are required or checked.

User input: no user interaction with the program is required.

**Output:** All output goes to the console. Output will be similar to this:

Enter number of cities to run: 10

Enter number of tours in a generation: 150

Enter the number of generations to simulate: 200

Enter the percent of tours to be mutated(0-100): 70

Running the algorithm...

Number of cities run: 10

Time the brute force algorithm took: 4 seconds

Cost(Brute Force): 405.1

Time the genetic algorithm took: 400 milliseconds

Cost(Genetic): 548.34

Percent of optimal: 135