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**Data Structures and Algorithms II**

**Project 2**

**User’s Manual**

**Setup and Compilation**

1. Download and unzip the submission file from eLearning.
2. The submission file includes:
   * AnalyticalModel.cpp
   * AnalyticalModel.hpp
   * Customer.cpp
   * Customer.hpp
   * FifoQueue.cpp
   * FifoQueue.hpp
   * PriorityQueue.cpp
   * PriorityQueue.hpp
   * Simulation.cpp
   * Simulation.hpp
   * main.cpp
   * UMLDiagram.pdf
   * UsersManual.docx
3. Environment: This program has been tested in the multi-platform lab and will run there.
4. Compiling: This program includes a Makefile. In the command line, type “make”. The program will create an executable file named dsp2.exe.

**Running the program:** Issue the command “./dsp2.exe” in order to run the program. No command line arguments are required.

**User Input:** The program will be interactive. When the program runs it will prompt the user in this order:

n - number of arrivals to simulate (>1000 up to 5000)

lambda (l) = average arrivals in a time period

mu (m) = average number served in a time period

M - the number of service channels (1 to 10)

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

Analytical Model:

Po: 0.5

W: 0.375

Wq: 0.0416667

Rho: 0.333333

Simulation:

Po: 0.51052

W: 0.359507

Wq: 0.0395123

Rho: 0.316473

Wait probability: 0.177