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Data Structures and Algorithms II

Project 2

User’s Manual

Queueing Theory

*Instructions for Setup and Compilation*

1. Download and Unzip the submission from the eLearning dropbox onto a Linux box in the Multi-Platform Lab.
2. Change directory into the unzipped directory
3. The extracted/unzipped directory must include the following (at a minimum):
   1. Functional Decomposition document (in .docx format)
   2. User’s Manual (in .docx format)
   3. Main.c
   4. Priority.c
   5. Model.c
   6. Queue.c
   7. Priority.h
   8. Queue.h
   9. Model.h
   10. Makefile
4. To compile and build the program, use the Makefile provided. Run the command “make” once inside the unzipped folder.

(*Note: This program has been tested on Ubuntu bash on several machines using make*)

1. To run the program, execute the command “./tree” to execute the executable named “tree” created in the same directory.

**User Input**

Type in the values for the different parameters of the program such as *n, lambda, mu and total servers,* as instructed by the program itself.

**Output**

All the output will go to the standard output, no relevant external files will be created during the runtime of the program.

The output of the program might look like the following:

(**NOTE:** The program will log its activities briefly as it performs the simulation. Do not freak out ! The log might look like this:

Arrival Hit in PQ ...

ENQUEUEING to FIFO ...

Departure Hit in PQ ...

DEQUEUEING from FIFO ...

Departure Hit in PQ ...

Departure Hit in PQ ...

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Results from the Simulation:

P0: 0.260206

W: 0.546402

Wq: 0.078687

rho: 0.504472

Results from the Analytical Calculations:

P0: 0.500000

L: 0.750000

W: 0.375000

Lq: 0.083333

Wq: 0.041667

rho: 0.333333