Project 2

CS 4348.002

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**Project summary:**

The program is written in Java and on the NetBeans platform. The class files have been compiled and tested in the Unix as well.

**Implementation:**

The application is written in 3 files – Project2.java, Customer.java and PostalWorker.java. Project2 needs to be compiled and executed. It initializes and starts threads of customers and postal workers.

**Project2:**

The Project 2 class initializes parameters like the post office capacity, number of customers and number of postal workers. These parameters are used to initialize post office limit and postal worker limit semaphores. Threads for customers and postal workers are also initialized here.

**Customer:**

Customer has variables for id, task assigned and assistingPostalWorker. It also initializes taskDone semaphore which waits customer threads till postal worker finishes the task.

**PostalWorker :**

PostalWorker has variables for id, time taken for each task and current customer. It also initializes idlePostalWorker and waitForCustomer semaphores to control the process flow. The static scale semaphore is used for mutual exclusion of a scale used by postal worker.

**Things I have learned:**

I learned how to use semaphore to mutually exclude usage of resources and to control process flow between threads.

**Issues:**

Getting the process flow right using semaphores and avoiding deadlocks is a major issue that I faced.