Lab 5 Report

Lab Objective:

The objective of this lab was to implement Banker’s Algorithm using threads which represented different processes and customers. Requests can lead to potential deadlocks which have to be considered and allowed based on requests that allow for a safe system.

Program:

The user executes the program and runs the command by typing./banker and 3 numbers of their choice example, ./banker 2 4 5. These are representations of customer threads which are initiated with a mutex lock. Max number of resources for each customer are randomly generated with a rng. The customer checks the mutex lock and determines whether or not the system will be left in a safe state. This will either be denied or granted. If denied another rng request will be initiated until granted. After a grant is approved the number of resources to that customer will be updated. Finally, a check will be made between the number of resources allocated and the maximum amount of resources for that customer. Lastly the customer waits for the mutex and resources will be released terminating the program.