OS Assignment 10

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November 26, 2015

Introduction:

This report gives a brief introduction on how to solve the classic Banker problem in Linux using the Linux libraries. The tasks are: 1. Apply the Bankers algorithm. 2. Check for safe and unsafe state. 3. Output the average request time.

Implementation:

Following is the description of the Thread:

- There are "NUM_PROCESSES" producer threads and each thread runs "resIters" times. Both the arguments are taken from the file.
- Each thread randomly decides whether to request or release a request. If it requests, it generates the request resources and allocates them pre- emptively. If it goes in an unsafe test, it releases them.
- If the thread releases the resources, it just frees the resources allocated to it.
- After all these iterations, each thread relinquishes all the resources allocated to it.

Safestate method:

Following is the description of method safeStateCheck():

- Defines the Work array of resources.
- For each process, checks if the Need is greater than work, if yes, then unsafe.
- If no such process found, state is safe.