Time Sharing System Simulator

Lab Write-Up

CS320

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**Methodology**

To examine the effects of various changes to the system, we ran the program 4 times with varying numbers of tasks and different time allotments.

Sample 1 had 12 tasks and 100 clock ticks per turn

Sample 2 had 24 tasks and 100 clock ticks per turn

Sample 3 had 12 tasks and 50 clock ticks per turn

Sample 4 had 12 tasks and 200 clock ticks per turn

The first 12 tasks were identical in all Samples. New tasks were created for the last 12 tasks in Sample 2.

**Results**

The program runs properly and outputs its information to a file that it writes named *auditLog.txt*. The program correctly completes the sets with their specified time, and adds the assumed overhead for this simulation. With the input file, and the added time to account for overhead, it takes 2925 ticks to complete all twelve sets for sample 1.

|  |  |
| --- | --- |
| Ticks/Turn | Completion Time |
| 50 | 3100 |
| 100 | 2925 |
| 200 | 2834 |

|  |  |
| --- | --- |
| # of Tasks (with 100 tick speed) | Completion Time |
| 12 | 2925 |
| 24 | 6246 |

**Conclusions**

The time it takes for sets to be completed can vary by the alloted clock time given to each set. The lower the clock time allotted, the slower it takes to finish all of the sets. The more time allotted, the faster it completes all of the sets. Clearly, the overhead plays a major role in the time it takes for all processes to finish, as overhead is added each time tasks are swapped.