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HW6 - FIFO scheduler report

The fact that surprised me the most about my FIFO scheduling algorithm was the CPU utilization during the execution. It was often in the high 90's percentage-wise. The cpu rarely had to wait on the IO devices. I tried different duration ranges for the IO duration, hoping to decrease the utilization, but it still remained high. With increased cost of the context switch, the total time of the simulation increased significantly, showing that many context switches hurt this algorithm.

The image below illustrates the typical run of my simulation.

```
/Users/fabio/Library/Caches/clion10/cmake/generated/aeaab4f2/aeaab4f2/Debug/hw6 -c 4 -i 5 -s 3.3 -t 40 -f 2.1
Creating a simulator, CPUs: 4, IOs: 5, context switch cost: 3.3, task mix: 40, frequency of job creation: 2.1
response time: avg: 34.912324
response time: std dev: 15.806912
response time: min: 5.458184
response time: max: 65.304122
latency: avg: 63.011547
latency: std dev: 39.495820
latency: min: 5.458184
latency: max: 123.073354
utilized time: 159.171304
utilization: 99.217382%
throughput: 0.093501tasks/unit time

done with simulation
```

Notes:

compiled on OS X using Apple LLVM version 6.0 (clang-600.0.34.4)

for help, see help.txt or run hw6 -h

for a run with typical conditions, run sample_run.sh

simulator outputs interesting log messages to simulator.log. The bracketed double value is the timestamp of the event.