Seminar 3: Assignment 2

Reminder

- Assignment 2 Due: 2017/02/27 @ 23:55
- Lots of time :)
- Not a heavy lab today (you did just finish A1)

Concept

- **Simulate** a process scheduler
- You won't have actual running processes
- Just managing a queue and doing some math

Scheduler

- A scheduler dictates how much CPU time a process is allowed to have
- One core on a CPU can only do one task at a time
- The OS kernel needs an intelligent way of deciding which processes should be executing
- Switching between these processes is called **context-switching** - it gives the illusion of simultaneous execution
- However, this switching has a cost (will come up in assignment)

Scheduling Policies

- Now, we won't get in too deep, just a brief overview for this week

- A2 asks you to implement 2 scheduling policies

- First-Come First-Serve

- Round Robin

- In-depth details in Chapter 5 of your textbook

First-Come First-Serve

- The process which is created first, runs until completion
- No overhead from switching contexts
- Computer can only do one thing at a time
- Process management is literally a queue data structure (first in, first out)

Round Robin

- Each process is allotted an amount of time (a **quantum**) that it is allowed to run

- After the quantum has expired, it is put at the back of the queue

- Context-switching cost comes into play (i.e. the time it takes to “stop” a process and put it to the end of the queue)

Next Week

- What kind of data structures you will need in your assignment
- Layout/help understanding the input file
- If we get your marks back in time, you'll be getting regraded during lab