Parallel and Distributed Algorithms

Lab Session 12

Home exercises

1. **[0p]** Nothing. It's almost Christmas (or it already passed)!

Lab Exercises

1. **[10p]** Pthreads – Parallelize and show scalability of sqrt.c.
2. **[10p]** Pthreads – Parallelize and show scalability of memset.c.
3. **[20p]** Pthreads – Parallelize and show scalability of readFiles.c.
4. **[20p]** Java – Make sure the GUI is correctly updated using threads. The program needs to be responsive. The problem is that each of the three row updates at a different speed.
5. **[20p]** Java – You might observe a flickering effect. Use double buffering to remove the flickering. Make an object of type **Image** using *createImage* from which you extract the object **Graphics** using **getGraphics**. Everything will be drawn in this final object and the Image will all be drawn on the screen at once.
6. **[20p]** MPI – Prove that you can write an MPI program that scales with the number of processes even on a single machine.