Topics for exam

- Reading from book: Chapters 1-6
  - Types of parallel computers
    o Shared memory
    o Message passing
    o Distributed shared memory
  - Ways in which parallelism is supported
    o Specialized programming language
    o Extensions to programming languages (compiler directives, reserved words)
    o Library of parallel functions
  - Basics of message passing
    o Point-point communications
    o Collective communications – broadcast, gather, scatter, reduce
  - SPMD
  - How to evaluate performance of an algorithm in pseudocode
  - Pleasantly parallel computations, partitioning tasks/data, pipelining, synchronous computation
    o What is it?
    o What varieties are there?
    o What types of applications lend themselves to that type of approach?
    o Given an application, which type of approach seems best and why?
  - Types of barriers
  - Applications/algorithms
    o Bucket sort
    o Prime number generation
    o Solving linear equations
    o Insertion sort