Lab Session 08

Home exercises

1. **[0p]** Compile and run executorSample.
2. **[5p]** Implement a parallel tree traversal using the ExecutorService.
3. **[5p]** Find the formulas that confirm if two elements are on the same diagonal of a matrix.

Lab Exercises

1. **[30p]** Parallelize getPathSequential using the ExecutorService.
   - Your algorithm does not need to find all the paths
   - This algorithm finds all paths (without cycles), not just minimum paths.
2. **[30p]** Parallelize colorGraph using the ExecutorService.
   - Adjacent nodes should have a different color.
3. **[30p]** Solve the Queens problem in parallel, using the Executor Service.
   - Two queens can attack each other if they are on the same line, column or diagonal.
   - Two solutions for the four Queens problem are [(2,1) (4,2) (1,3) (3,4)] and [(3,1) (1,2) (4,3) (2,4)].
   - The problem is very simple if you use a vector to represent the board. The values in the vector represent the lines, and the positions represents columns on which the queens are placed.