COMP 322: Fundamentals of Parallel Programming (Spring 2014)
Instructor: Vivek Sarkar
Worksheet 3: due at end of class today

Name: _____   **Netid: _____**

Honor Code Policy: You are free to discuss all aspects of in-class worksheets with your other classmates, the teaching assistants and the professor during the class. You can work in a group and write down the solution that you obtained as a group. If you use any material from external sources, you must provide proper attribution.

Parallel Search and Abstract Metrics

Download Search.java from the Code Examples column for Lecture 3 in the course web page. Search.java contains a sequential program to search for a substring (pattern) in a given string (text), and return true if an occurrence is found. As discussed in Lecture 2, this program has been instrumented to count each character comparison as 1 unit of work from the viewpoint of abstract performance metrics, and ignore everything else.

Your worksheet assignment is to convert it to a parallel program that produces the correct answer with a smaller critical path length (and larger ideal parallelism) than the sequential version. You can explore alternate algorithms that reduce both the work and/or the critical path length further than what was discussed in the lecture. **Write down the WORK, CPL and IDEAL PARALLELISM values you see for your program with the default input.**