**Northeastern University – Silicon Valley**

CS 6650 Scalable Dist Systems

**Homework #7 Assigned: 7/5/19 Due: 7/14/19** [100 points]

***INSTRUCTIONS: Please provide clear explanations in your own sentences, directly answering the question, demonstrating your understanding of the question and its solution, in depth, with sufficient detail. Submit your solutions [PDF preferred].* Include your full name*. Do not email the solutions.***

Study **Chapter 16 from** Coulouris Book

1. 16.1 [20 points]
2. 16.2 [20 points]
3. Concurrency Control and Java Apps
4. Explain the 3 different concurrency control methods (Ch 16 Coulouris Book – Locks based, Optimistic and Time-stamp Ordering) brifely. Compare and contrast how they achieve concurrency control. [20 points]
5. **Java Concurrency In Practice** by Brian goetz is the practice manual for Dist Systems. Study Chapter 6 (Task Execution) which is a small chapter.

Identify 5 different programming devices e. g. Tasks, Exec Framework) used in Java for Task Execution. Then, briefly expalin how you might use these to implement a basic

Locks based concurrency control in a simple Web App. [40 points]