**CS6025 OPERATING SYSTEMS**

**Department of Computer Science**

**Kennesaw State University**

**Spring 2022**

**Programming Assignment # 1**

**Experimenting with Multi Threading and Process Synchronization**

You have been given prototype Java implementation of 5 problems as follows:

* Summation
* Clock Applet
* Synchronous Queue
* Producer and Consumer
* Critical Section Problem

Modify the projects as follows:

* Summation only handle ∑ i, augment it to handle ∑ i2 and ∑ i3
* Clock Applet updatestime every second, make it 2 seconds
* There is a fixed order for Synchronous Queue, use java.util.Collections class’s *shuffle*  method to change order of display
* Producer and Consumer problem deals with Date object, show it’s getTime() method to calculate elapsed time
* Use System.currentTimeMillis() method to calculate elapsed time in critical section

**Directions**

* This work is to be done in a *group*
* Assignment is due Monday February 7, 2022 by 11:59pm
* On or before the due time, you may show the result to the Instructor
* Submit just one pdf file that will contain all of your work: modified source code, successfully run screen shot etc.