# Problem Set 8

**(10 Points) Cohort Question 1:**

Given MultipleClient.java and WebServer.java, implement the sequential server and one thread per task server and compare their performance. Vary the number of threads (10,100,1000) and see the trend.

**(10 Points) Cohort Question 2:**

Given MultipleClient.java, complete ExecutorWebServer.java using newFixedThreadPool with 100 threads. Compare the performance with the sequential and thread-per-task web server (with 10, 100, 1000 client threads).

**(10 Points) Cohort Question 3:**

Given LifecycleWebServer.java, modify it such that it can be shut down through a client request by sending the server a specially formatted request. Test your program.

**(10 Points) Cohort Question 4:**

Given MultipleClient.java (with the bigger number and 5 clients) and ExecutorWebServer.java, tune the thread pool size in the factor web server example for optimal performance.

**(10 Point) Cohort Question 5:**

RejectedExecutionException is thrown by an Executor when a task cannot be accepted for execution, which could happen when (A) the executor has shutdown (B) when the task queue is full. Based on LifecycleWebServer.java, write two programs (according to A and B) which demonstrate how RejectedExecutionException occurs.