CIS 5512 Final Project Individual Report

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Responsibilities

- Replace lsh.c by my shell code.
- Revise tshtest.c to make it works with my shell implementation.
  The tshtest.c is unchanged in my design as I reuse the shell_in and shell_out data structure to communicate shell inputs and outputs between tshtest and the shell.
- Revise shell implementation to support running process in the background and collect their termination status when completed.
  My shell will check if the last character of the received command is '&' to decide if it needs to run the command in the background.
  To support background running, I fork a process to execute the command. The parent process will start a new thread to wait for the child process (I didn't use the signal handler), so the main thread can return immediately.
  I add the following built-in commands to do the task:
    - show-process [pid]
      If pid is given, show the exit status (-1 means the process is still running) and output of the process.
      If pid is not given, show a summary (process id, exit status) of all the processes that run in the background.
    - Clear-process
      Clear the logged information of processes that have exited.
- Build a "launch.c" program that will launch a parallel process in the background.
  The launch.c will take a command, appending it with '&' that indicates the command shall be run in the background, and send it to the shell.
- Modify the mmaster.c to insert running statistics into MySQL database.

Summary

In this project, my responsibilities are those tasks requires C codes, since I am more familiar with C programing. We have a balanced task distribution, and everyone is very active in this project. I think what we have done best in this project is our collaboration: we always communicate our progress to the group, and we help each other in the developing process.