**Operating System Homework 4 Report**

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**Detailed description of the implementation:**(Number of threads, the purpose of those threads, how do you use mutex lock and semaphore…etc.)

2 threads for basic and 4 threads for bonus. For basic, threads were for parallel computing for each step. A thread was created separately for mean filter and sobel filter as the spec asked. On the other hand, bonus creates thread to do the whole computation all the way down to result. But there should be a barrier between mean and sobel filter, it was implement by two semaphore.

**Your speed:**

1230000 for two thread

900000 for four thread

**Problems encountered and solutions:**

A barrier is fucking useless when you have to create two thread separately for mean and sobel filter. It’s dump to ask student do use mutex or semaphore in such situation. But I still add an useless barrier between.