**CECS 326-03** (326 is section 3)

Operating Systems

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Assignment 1

Due Date: 9/17/2019

Submission Date: 9/17/2019 (or other date as appropriate)

Program Description

The program is to simulate much simplified operations for part of the process and memory management in operating systems. When the program first is created, the MBT array (first 32 element is set to false (representing the allocation of memory blocks) and the rest are set to true along with an empty queue of type PCB is initialized. A menu is displayed with four options:

1. It initiates a process. First, it generates a random number which would determine the table size of Page Table. The program then checks in MBT array if there are enough space to be allocated. The PCB then stores a unique PID, a pointer to an array of the index numbers allocated of this process in MBT (called a “Page Table”), and its size. Finally, the PCB is pushed into a queue.
2. If queue is not empty, print the contents of each PCB in the queue (PID, table size, and the contents in the Page Table). It specifies the queue is empty otherwise.
3. Delete the PCB with the corresponding PID user inputted. Then, it deallocates the page table along with the PCB containing the page table itself. If the inputted PID doesn’t match any PID’s in the queue, display a warning message and return to menu.
4. If queue is not empty, ask user if they want to empty it. If they do, empty everything and deallocate the pointers in each PCB, and exit the program. Otherwise, return to menu.