CSE 4502 (SWE) [Operating Systems Lab]
Lab # 02

Lab Task:

1. Write a C program using the fork() to create eight (8) child processes. In each process, print their process IDs and their parents' process IDs.
2. Write a C program using the fork() to create a child's processes. Take a variable with an initial zero (0) value. Add your student ID to that variable in the child process and print that value. Add the last three (3) digits of your student ID to that variable in the parent process and print that value.
3. Write a C program using the fork() system call that generates the Fibonacci sequence in the child process. The number of the sequence will be provided in the command line. For example, if 5 is provided, the first five numbers in the Fibonacci sequence will be output by the child process. Because the parent and child processes have their own copies of the data, it will be necessary for the child to output the sequence. Have the parent invoke the wait() call to wait for the child process to complete before exiting the program. Perform necessary error checking to ensure that a non-negative number is passed on the command line.
4. Write a C program using the fork() system call that uses the Bobble Sorting algorithm in the child process to sort the given random numbers. The random numbers will be provided in the command line. In the parent process, you search a number using the Binary Search Algorithm. So, in the command line, you will take two inputs, a set of random numbers and a searched value. For example, when [1,4,8,5,3,2] and "4" are provided, [1,4,8,5,3,2] will be sorted in the child process. In the parent process, "4" will be searched from that sorted numbers. Have the parent invoke the wait() call to wait for the child process to complete before exiting the program. Perform necessary error checking to ensure that a non-negative number is passed on the command line.