OS: LAB ASSIGNMENT-3

Signals & Pthreads

1. Develop a program that does the following:

   Create 2 processes, a parent and a child using fork(). The parent prints the value of 'i' from 0 to 1000 and then exits. Meanwhile the child process sleeps for 5 seconds after it is created, sends a SIGUSR1 signal to the parent and then exits. The parent should catch that signal, print on standard output "Received SIGUSR1 signal, going to sleep for 2 seconds", sleep for two seconds and then continue printing the numbers.

2. Write programs using signal API to handle below signals:
   a. SIGINT
   b. SIGTERM
3. Write a pthread program to add the values of an array of size N and print the sum.

4. Write a multi-threaded C program which creates two threads which call a simple hello world function which prints "Hello World <thread_id>", where <thread id> is the id of the thread which was created and the function executes an infinite while loop by calling while(1){}. Execute the program. Use top -H to view the thread. Kill the program by using Ctrl C at the shell where the program was started.

(**Note:** Execute all the programs discussed and given during the theory session)