Assignment 2

Operating System Lab (CS341)

Department of CSE, IIT Patna

Date:- 14 -Jan -2020   **Time-**: 3 Hrs

Instructions:

1. All the assignments should be completed and uploaded by 6 pm. Marks will be deducted for the submissions made after 6 pm.
2. Markings will be based on the correctness and soundness of the outputs. Marks will be deducted in case of plagiarism.
3. Proper indentation and appropriate comments (if necessary) are mandatory.
4. You should zip all the required files and name the zip file as roll_no.zip, eg. 1501cs11.zip.
5. Upload your assignment (the zip file) in the following link

https://www.dropbox.com/request/3z9ZuUFbP5Ei47AXJuX8

Questions :

1. Write a program in C to create three child processes that increment(by three) a global variable distinctly using fork system call and verify whether global variable is shared among created processes or not.

2. Write a program in C to show 'Parent process and child process run in parallel' using a for loop. Also show Parent and Child id with their respective update.

3. Write a program in C that will create seven child processes and report number of prime pid .The child processes must be terminated in the following sequence:

   4, 3, 6, 1, 7, 2, 5 ;

4. Write a C program to generate 3 child processes from the same parent process. Once a process gets generated it ask the user for maximum wait time and it waits for that specified duration and then dies. Parent process checks for the status of all the child processes, if all child processes are dead then parent also dies. You are also supposed to display the lifetime of each and every process along with its process id.

5. A text file "lab.txt" contains the following message.

 If you think you can do it, you can do it.

The boy was a good footballer, because his father was a footballer, and his grandfather was a footballer.

The politician declared, "We will fight come what may, we will fight on all fronts, we will fight for a thousand years."

The refugees were crossing into the neighboring country when they saw blood all around — blood on the passageways, blood on the fields, blood on the

a) Use the cat command on lab.txt. Pipe the result to a sed command and parenthesize first character of each word. Store the results in a file called lab1.txt.

b) Use the cat command on lab.txt. Pipe the result to a sed command and replace 2nd occurrence to all occurrences of highlighted words (in red color) of each line . Store the results in a file called lab2.txt.

c) Use the cat command on lab.txt. Pipe the result to a sed command and perform both the modification using inline sed command. Store the results in a file called lab3.txt

Record the command that you used to do this. Save this command.