***Jaypee Institute of Information Technology, Noida***

***Operating System and System Programming lab [15B17CI472]***

***Assignment-4***

Instruction:

For executing following program you can use online C compiler in case you don’t have Linux operating system installed. Please make sure it has to be a GDB compiler e.g <https://www.onlinegdb.com/>

1. Write a Linux C programme to create two processes P1 and P2. P1 takes a string and passes it to P2. P2 concatenates the received string with another string without using string function and sends it back to P1 for printing.

Hint: Use inter process communication using pipes

1. What is the output of the following code?

#include <stdio.h>

#include <unistd.h>

int main()

{

    if (fork()) {

        if (!fork()) {

            fork();

            printf("1 ");

        }

        else {

            printf("2 ");

        }

    }

    else {

        printf("3 ");

    }

    printf("4 ");

    return 0;

}

1. Write a program which acts like a timer; It asks the user for a specific time, allows the user to execute other programs while it waits and pops up with an alert on finishing the time.

HINT:Look at how the sleep() and wait() commands work. (can also be done using other IPC techniques e.g. signals)

Ref:<http://linux.die.net/man/3/sleep>

1. Create a file named my file.txt that contains the following four lines :

Child 1 reads this line

Child 2 reads this line

Child 3 reads this line

Child 4 reads this line

Write a C program that forks four other processes. After forking the parent process goes into wait state and waits for the children to finish their execution. Each child process reads a line from the file my file.txt ( Child 1 reads line 1, child 2 reads line 2, child 3 reads line 3 and child 4 reads line 4 ) and each prints the respective line. The lines can be printed in any order.