



Birla Institute of Technology & Science, Pilani

Pilani Campus

I SEMESTER 2019-2020

LAB-1 EXERCISE

Course No.: IS F462

Course Title: Network Programming

Deadline: 26th August 2019

Maximum Marks: 20M

Let us emulate a load balancer in this exercise. Write a program `load_balancer.c` for the following requirements taking filepath `F` and `N` as the argument. Purpose of load balancer is to balance the load on each child process.

- Load balancer opens `F` and creates `N` child processes. It chooses a child process (say `i`) in round-robin fashion and that process `i` should be free. If it is not free, the next process is chosen and so on. A signal is sent to the chosen process `i` to read a line from the file.
- Child processes send a signal to the parent to indicate that they are free. A process is free if it has done reading a line from file and printed it to the screen after waiting for 1 second.
- Load balancer doesn't wait for a child to send signal after it has sent a signal to child.

Load balancer process and child processes should print appropriate statements to the console to update about the progress.

Files Expected: A tar file `<idno>_lab1.tar` containing `load_balancer.c` and `makefile` to compile your program.

Upload in <http://nalanda.bits-pilani.ac.in>