Birla Institute of Technology & Science, Pilani
Pilani Campus

I SEMESTER 2024-2025
LAB-1 EXERCISE

Course No.: **IS F462** **Course Title:** **Network Programming**
Deadline: **As per canvas** **Maximum Marks:** **20M**

Let us consider N children to be created a by a process in the topology of a binary tree such a way that there are two children at each level except for the last level. N, A, S are taken as command line arguments.

- Any process can send a signal to anyone. A child knows its pid and parents pid. It derives a range of pids such that `parent_pid-N <= pid <= own_pid+N.` It sends signals to each process in that range.
- When a process receives a signal from parent it adds A points, if from a child it deducts S from its points and if from a sibling it deducts by S/2. Initially every process starts with N points. When the number of points reaches zero, the process exits. Process prints the signals received, from where and the points and exit message.
- Parent process calculates range of pids of children, and by sending null signal, it counts how many children are alive. It prints the count every 3 seconds.

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

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