



Birla Institute of Technology & Science, Pilani

Pilani Campus

II SEMESTER 2024-2025 TAKE HOME EXERCISE-4

Course No.: CS F422

Course Title: Parallel Computing

Deadline: As per Canvas

Maximum Marks: 20M

Consider a log dataset given at [github](#). This log file contains record of various events. Write MPI-OpenMP hybrid program for the following requirements.:

- (a) Data in file should be read by each process parallelly. Each process reads its data using [MPI-IO](#). `MPI_File_open` and `MPI_File_read_at` may be used.
- (b) File is distributed evenly among all processes. A line can't be split across processes.
- (c) Goal is to find the count of each event and print top 10 occurring events along with their counts.
- (d) All events and their count is printed to file `event_count.txt`. Top 10 events are printed to `to_10.txt`. Writing can use MPI-IO for parallel IO.

Files Expected: A tar file `<idno>_the4.tar` containing `mpi.c`, `makefile`, screenshots. Screenshots should have idno of the student clearly visible in the terminal.

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