

COSC6352: Advanced Operating Systems
Fall 2019, Project #1
Date Assigned: Wednesday, March 07, 2019
Due Date: Wednesday, March 20, 2019 at 11:59 p.m.
(Total points: 100)

The objective of this project is to compare MPI scatter, gather and allgather functions with your own scatter, gather and allgather functions. Write three different programs, these programs perform the followings:

1. Program 1: Implements you own scatter(myscatter) function.
2. Program 2: Implements you own gather(mygather) function.
3. Program 2: Implements you own allgather(myallgather) function.

Within each program, collect the time it takes to execute both MPI functions and your functions. Run the program with different number of processes: 4, 6, 8, 10, 12, 14, 16, 18, 20, 22 and 24. Plot the graph (time vs # of processes) for each program.

Submission:

Submit a zip file containing:

1. A pdf file containing a detailed description of the design and the implementation of your functions, the jumpshots(only for experiment with 6 processes and 16 processes) and the graph (time,#of processes) for each program..
2. Your C/C++ code.