Experiment 07

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Aim : 1. Implement using MPI.
i. calculating Rank and Number of processor
ii. Pi calculation.
iii. Advance MPI program that has a total number of 4 processes, where the process with rank=0 should send WIT letter to all the processing using MPI_scatter call..
iv. Find the maximum value in array of six intergers with 6 processes and print the result in root process using MPI_Reduce call.
v. Ring topology.

Theory :

MPI stands for Message Passing Interface. It is widely used standard programming and parall and distributed computing systems. MPI provides a set of standard functions that allows multip process to communicate and coordinate their activities in parallel computing environment.

MPI is commonly used for scientific and engg. simulations, data analysis, and other computationally intesive tasks that can benefit from parallin

3) MPI programs can be run on wide range of computing systems, from clusters to large supercomputers

4) MPI allows processes to communicate using message passing, where data is sent and received between processes using defined communication protocols/operations. MPI also provides functionality for process management collective, and input/output operations.

5) MPI is highly portable standards, which means that MPI programs can be written once and run on verity of computing systems without modification. There are several implementations of MPI available, including open-source implementations like Open MPI and MPICH as well as commercial implementations from vendors like intel cray and IBM.