**High Performance Computing Lab**

**Practical No. 7**

**Title of practical:**

Installation of MPI & Implementation of basic functions of MPI

**Problem Statement 1:**

Implement a simple hello world program by setting number of processes equal to 10

CODE :

#include <mpi.h>

#include <stdio.h>

int main(int argc, char\*\* argv) {

MPI\_Init(&argc, &argv);

int world\_size;

MPI\_Comm\_size(MPI\_COMM\_WORLD, &world\_size);

int world\_rank;

MPI\_Comm\_rank(MPI\_COMM\_WORLD, &world\_rank);

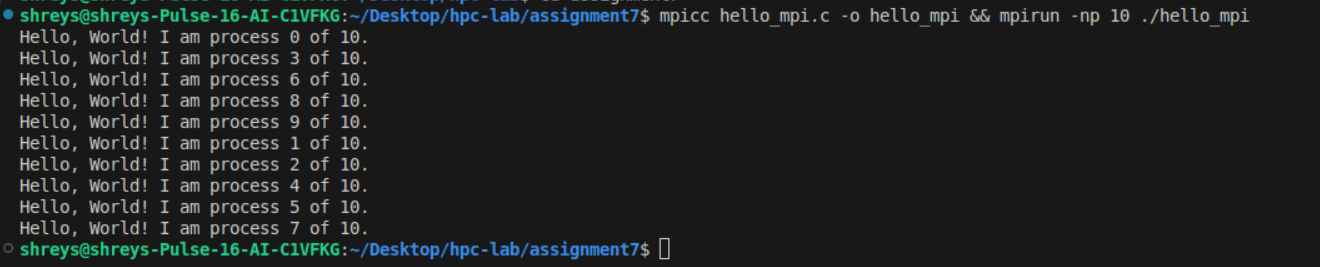
printf("Hello, World! I am process %d of %d.\n", world\_rank, world\_size);

MPI\_Finalize();

return 0;

}

**Screenshots:**

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**Problem Statement 2:**

Implement a program to display rank and communicator group of five processes

CODE :

#include <mpi.h>

#include <stdio.h>

int main(int argc, char\*\* argv) {

MPI\_Init(&argc, &argv);

int world\_size;

MPI\_Comm\_size(MPI\_COMM\_WORLD, &world\_size);

int world\_rank;

MPI\_Comm\_rank(MPI\_COMM\_WORLD, &world\_rank);

printf("Hello, World! I am process %d of %d.\n", world\_rank, world\_size);

MPI\_Finalize();

return 0;

}

**Screenshots:**

