

## Objective

The program is used to demonstrate the use of five functions in MPI programming: MPI\_Abort, MPI\_Comm\_rank, MPI\_Send, MPI\_Isend, MPI\_Bcast. All the five functions are included in PartA\_demo.c file.

## Compile

In PartA directory, execute 'make' command with attaching 'Makefile' or directly compile using:

```
mpicc -o PartA_demo PartA_demo.c
```

## Execution

In PartA directory, execute command:

```
mpirun -np 4 ./PartA_demo
```

## Instruction

The program will run in following order:

### (1) MPI\_Comm\_rank demo

Display the ranks of each task

### (2) MPI\_Send demo

Please input an integer. The program will send the input value from task 0 to other tasks using MPI\_Send function. The value received by other tasks will be displayed.

### (3) MPI\_Isend demo

Please input an integer. The program will send the input value from task 0 to other tasks using MPI\_Isend function. The value received by other tasks will be displayed.

### (4) MPI\_Bcast demo

Please input an integer. The program will execute MPI\_Bcast functions on all tasks while using task 0 as the root. The value received by other tasks will be displayed.

### (5) MPI\_Abort demo

Please input 0. The program will call MPI\_Abort function deliberately. This is not an appropriate use of MPI\_Abort, just for demo.

## Note

Because MPI does not guarantee the orders of stdout, the messages displayed are not in order.