MPI_Comm_size

Determines the size of the group associated with a communictor

Synopsis

```
#include "mpi.h"
int MPI_Comm_size ( comm, size )
MPI_Comm comm;
int *size;
```

Input Parameter

comm - communicator (handle)

Output Parameter

size - number of processes in the group of `comm` (integer)

Notes

`MPI_COMM_NULL` is *not* considered a valid argument to this function.

Notes for Fortran

All MPI routines in Fortran (except for `MPI_WTIME` and `MPI_WTICK`) have an additional argument `ierr` at the end of the argument list. `ierr` is an integer and has the same meaning as the return value of the routine in C. In Fortran, MPI routines are subroutines, and are invoked with the `call` statement.

All MPI objects (e.g., `MPI_Datatype`, `MPI_Comm`) are of type `INTEGER` in Fortran.

Errors

All MPI routines (except `MPI_Wtime` and `MPI_Wtick`) return an error value; C routines as the value of the function and Fortran routines in the last argument. Before the value is returned, the current MPI error handler is called. By default, this error handler aborts the MPI job. The error handler may be changed with `MPI_Errhandler_set`; the predefined error handler `MPI_ERRORS_RETURN` may be used to cause error values to be returned. Note that MPI does *not* guarentee that an MPI program can continue past an error.

MPI_SUCCESS - No error; MPI routine completed successfully.

MPI_ERR_COMM - Invalid communicator. A common error is to use a null communicator in a call (not even allowed in `MPI_Comm_rank`).

MPI_ERR_ARG - Invalid argument. Some argument is invalid and is not identified by a specific error class (e.g., `MPI_ERR_RANK`).

Location:comm_size.c