

MPI_Reduce Operations



MPI_Reduce Operations



On this lecture we are going to see the operations we can perform with MPI_Reduce.

MPI_Reduce Operations



- `int MPI_Reduce(const void* sendbuf, void* recvbuf, int count, MPI_Datatype datatype, MPI_Op op, int root, MPI_Comm comm);`

MPI_Reduce Operations

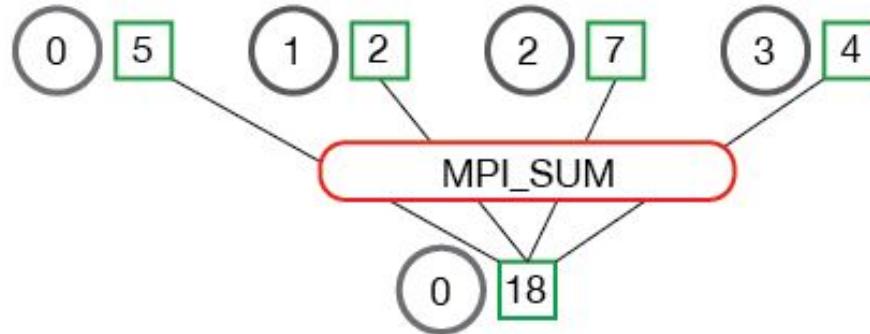


Name	Meaning
MPI_MAX	maximum
MPI_MIN	minimum
MPI_SUM	sum
MPI_PROD	product
MPI_LAND	logical and
MPI_BAND	bit-wise and
MPI_LOR	logical or
MPI_BOR	bit-wise or
MPI_LXOR	logical xor
MPI_BXOR	bit-wise xor
MPI_MAXLOC	max value and location
MPI_MINLOC	min value and location

MPI_Reduce Operations



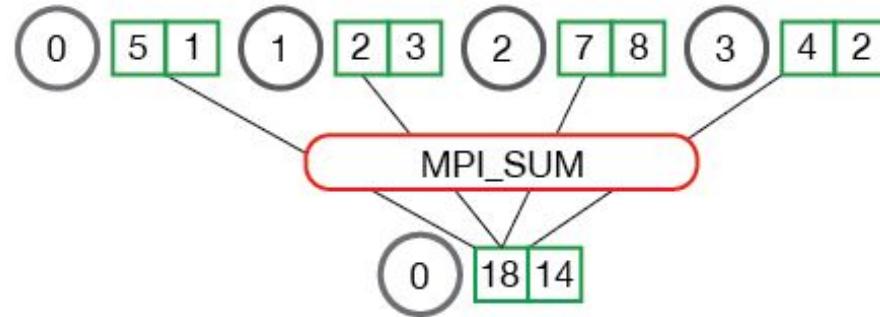
MPI_Reduce



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MPI_Reduce



Difference between Bitwise AND - Logical AND



MPI_BAND

$$\begin{array}{r} 6 \quad 10 \\ 1010 \\ 0110 \\ \hline 0010 \end{array}$$

↙ 2

MPI LAND

$$\begin{array}{r} 6 \quad 10 \\ 1 \quad 88 \quad 1 \\ \sim \\ 1 \end{array}$$