















## **Broadcast Example**



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Predefined Reduction Operations	
Operation	Description
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	bitwise xor
MPI_MINLOC	computes a global minimum and an index attached to the minimum value can be used to determine the rank of the process containing the minimum value
MPI_MAXLOC	computes a global maximum and an index attached to the rank of the process containing the maximum value 20

## **Reduction Example**

```
#include
          <stdio.h>
#include <mpi.h>
void main(int argc, char *argv[]) {
  int rank;
 int source, result, root;
 MPI_Init(&argc, &argv);
  MPI_Comm_rank(MPI_COMM_WORLD,&rank);
  root=7;
  source=rank+1;
  MPI_Reduce(&source,&result,1, MPI_INT, MPI_PROD, root,
          MPI_COMM_WORLD);
  if(rank==root) printf("P:%d MPI_PROD result is %d \n", rank,
                        result);
MPI_Barrier(MPI_COMM_WORLD);
MPI Finalize();
                                                                21
}
```







