

Homework Assignment 6 – due on Saturday, November 11 (Midnight)

Description of Assignment:

You are to write an MPI C program(bcast.c) same as the MPI_Bcast() function except that root process is always 0. **Your program must run on any number of processes.**

Use the next code frame. Compile with "mpicc -o bcast bcast.c -lm"

```
#include <stdio.h>
#include <math.h>
#include "mpi.h"

int MPI_Bcast2(void *buffer, int count, MPI_Datatype datatype, MPI_Comm comm)
{
    int np, pid, N, eor_bits, partner, i, j;
    int tag = 0;
    MPI_Status status;

    MPI_Comm_size(MPI_COMM_WORLD, &np);
    MPI_Comm_rank(MPI_COMM_WORLD, &pid);

    N = (int)(roundf(log(np)/log(2)+0.49999)); // for any number of processes

    // FILL IN THIS BLANK

    return 0;
}

int main(int argc, char* argv[])
{
    int np, pid, root, i;
    int tag = 0;
    MPI_Status status;
    int data[10];

    MPI_Init(&argc, &argv);
    MPI_Comm_rank(MPI_COMM_WORLD, &pid);

    if (pid == 0)
        for (i=0; i<10; i++)
            data[i] = i+1;

    MPI_Bcast2(data, 10, MPI_INT, MPI_COMM_WORLD);

    printf("%d: %d %d\n", pid, data[0], data[9]);

    MPI_Finalize();
}
```

Turnin the assignment:

After done your assignment, type **turnin** in your current working directory. You can retype the command at any time before the due date.