

Exercise: In Error

Please run the code that shows below and explain the results (after running it several times)

```
#include <stdio.h>
#include <mpi.h>
int main(int argc, char **argv) {
    int my_rank, world_size, count=1, tag=6, head_node=0;
    float bigNum = 1.0e20, retVal, result=0.0;
    MPI_Status status;

    MPI_Init(&argc, &argv);
    MPI_Comm_rank(MPI_COMM_WORLD, &my_rank);
    MPI_Comm_size(MPI_COMM_WORLD, &world_size);
    retVal = my_rank > 1 ? 1.0 : (2*my_rank - 1)*bigNum;
    if (my_rank == head_node) {
        result = retVal;
        while(count != world_size) {
            MPI_Recv(&retVal, 1, MPI_FLOAT,
                    MPI_ANY_SOURCE, tag, MPI_COMM_WORLD, &status);
            result += retVal;
            ++count;
        }
        printf("The current wrong answer is %f\n", result);
    } else {
        MPI_Send(&retVal, 1, MPI_FLOAT, head_node, tag, MPI_COMM_WORLD);
    }
    MPI_Finalize();
    return 0;
}
```