HW1

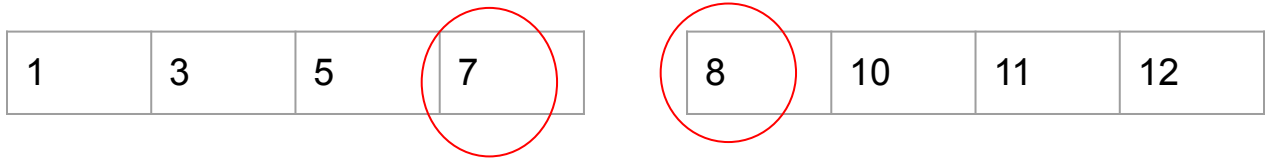
Optimization

Local sort

1. From profiling we can know performance is still bounded by computation, it’s due to the local sort.
2. std::sort is fast than quick_sort
3. You also can use boost::spread_sort

Reduce the communication time

1. You can check the last element of the left rank and the first element of the right rank, if last element of the left rank is smaller than the first element of the right rank, we don’t need to send the data.
2. use MPI_Isend



Merge

1. Let the left rank to merge the smaller part of the array , right rank to merge the larger part of the array
2. Using the pointer to swap the data