

Odd-Even Transposition Sort

Please implement an Odd-Even Transposition Sort algorithm using MPI.

- For each process with odd rank P , send its number to the process with rank $P-1$.
- For each process with rank $P-1$, compare its number with the number sent by the process with rank P and send the larger one back to the process with rank P .
- For each process with even rank Q , send its number to the process with rank $Q-1$.
- For each process with rank $Q-1$, compare its number with the number sent by the process with rank Q and send the larger one back to the process with rank Q .
- Repeat 1-4 until the numbers are sorted.

About the Template

- Modify the code in `src/odd-even-sort.cpp`
- The project can be compiled as the following:

```
cd /path/to/project
mkdir build && cd build
cmake .. -DCMAKE_BUILD_TYPE=Debug # please modify this to `Release` if you
want to benchmark your program
cmake --build . -j4
```

- The project will generate two executables:
 - `main`: the main project accepts two arguments: input and output. It reads all numbers from input and print the sorted results to the output.
 - `gtest_sort`: the test program contains two simple test cases for you to check the correctness of the program.