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Lab 5 Report

Summary:

The difference between process 0 and process 1 is the ordering in which we arrange our receive and sends. Process 0 sends out before receiving and Process 1 receives before sending in our arrangement. The maximum bandwidth was achieved with a message size of 512 so the ideal buffer size is approximately 512 doubles.

```
Message Size: 32, Process: 0, Elapsed Time: 0.312500 seconds, Bandwidth: 819.200000
Message Size: 32, Process: 1, Elapsed Time: 0.312500 seconds, Bandwidth: 819.200000
Message Size: 256, Process: 0, Elapsed Time: 0.580000 seconds, Bandwidth: 3531.034483
Message Size: 256, Process: 1, Elapsed Time: 0.580000 seconds, Bandwidth: 3531.034483
Message Size: 512, Process: 0, Elapsed Time: 0.877500 seconds, Bandwidth: 4667.806268
Message Size: 512, Process: 1, Elapsed Time: 0.877500 seconds, Bandwidth: 4667.806268
Message Size: 1024, Process: 0, Elapsed Time: 2.500000 seconds, Bandwidth: 3276.800000
Message Size: 1024, Process: 1, Elapsed Time: 2.497500 seconds, Bandwidth: 3280.080080
Message Size: 2048, Process: 0, Elapsed Time: 3.587500 seconds, Bandwidth: 4566.968641
Message Size: 2048, Process: 1, Elapsed Time: 3.590000 seconds, Bandwidth: 4563.788301
```