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## Merge sort

0	1	2	3	4	5	6
4	0	6	1	5	2	3

0	1	2	3
4	0	6	1

0	1	2
5	2	3

0	1	0	1
0	1	6	1

5	2	3
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4	0	6	1
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5	2	3
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0	4	1	6
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2	5	3
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0	1	4	6
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2	3	5
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0	1	2	3	4	5	6
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Worst case:  $O(n \log n)$

Average case:  $O(n \log n)$

Best case:  $O(n \log n)$