Richard Aguilar

Selection Sort:

12 23 5 10 34 7

1. find smalles element ce Place it at beginning of Array [0...5]

7 is smallest
Swap (7, 12)

7 23 5 10 34 12

2. find smalles element ce Place it at beginning Sub-Array [1...5] Note: Sub-Array Highlighted

5 is smallest
Swap (23, 5)

7 5 23 10 34 12

2. find smalles element ce Place it at beginning Sub-Array [2...5] Note: Sub-Array Highlighted

10 is smallest
Swap (10, 23)

7 5 10 23 34 12

2. find smalles element ce Place it at beginning Sub-Array [3...5] Note: Sub-Array Highlighted

12 is smallest
Swap (12, 23)

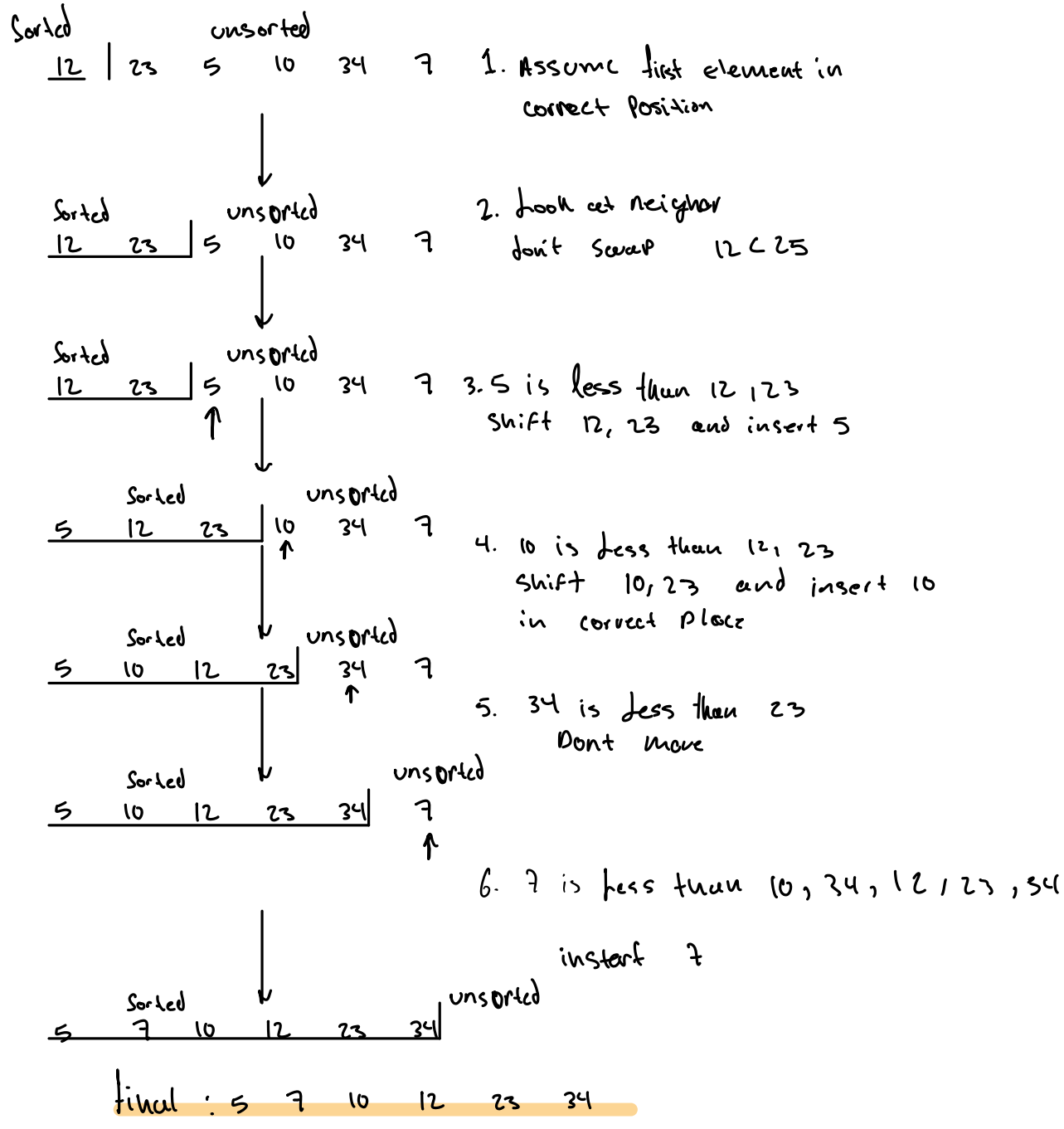
7 5 10 12 34 23

2. find smalles element ce Place it at beginning Sub-Array [4...5] Note: Sub-Array Highlighted

23 is smallest
Swap (23, 34)

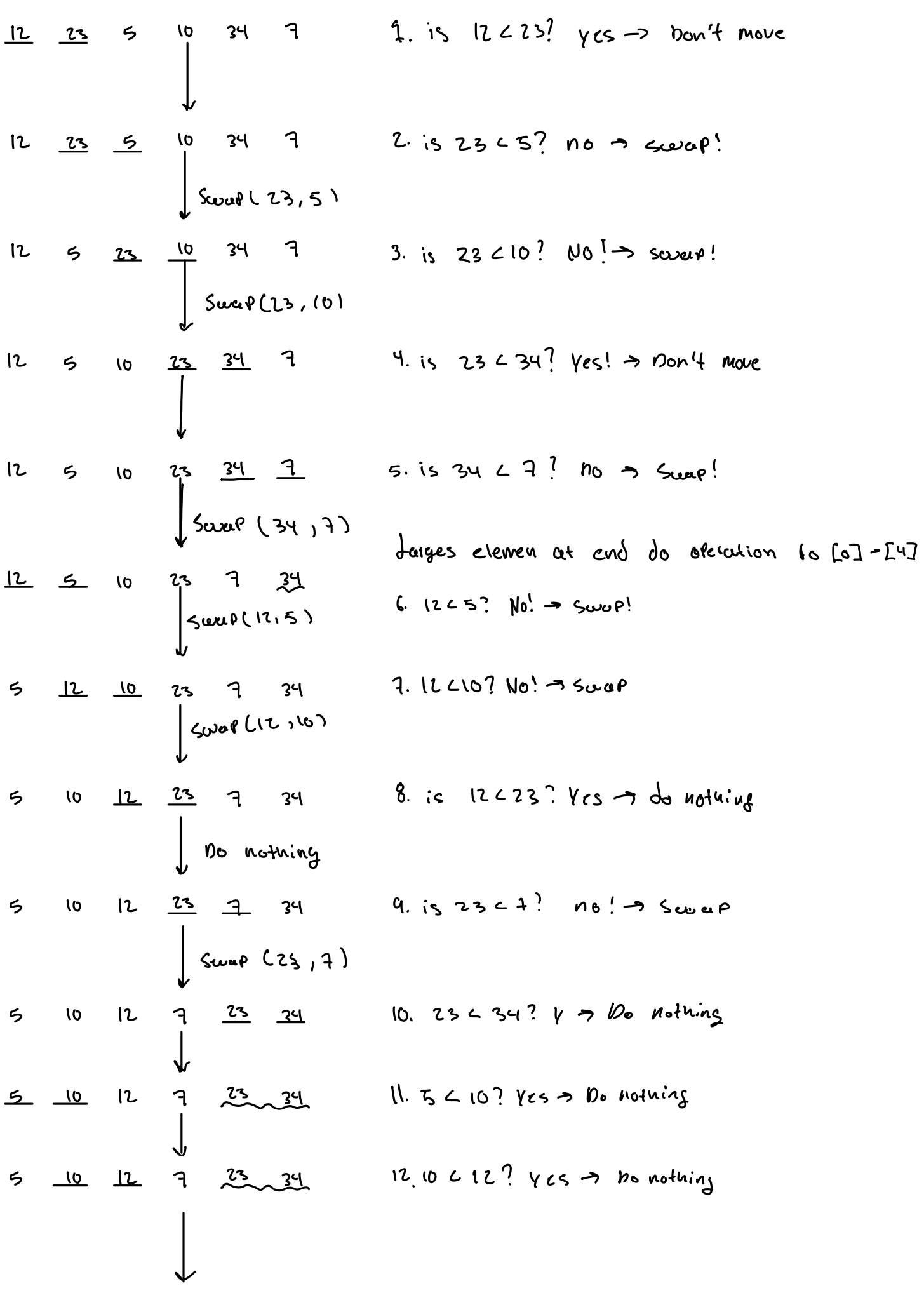
Final Result: 7 5 10 12 23 34

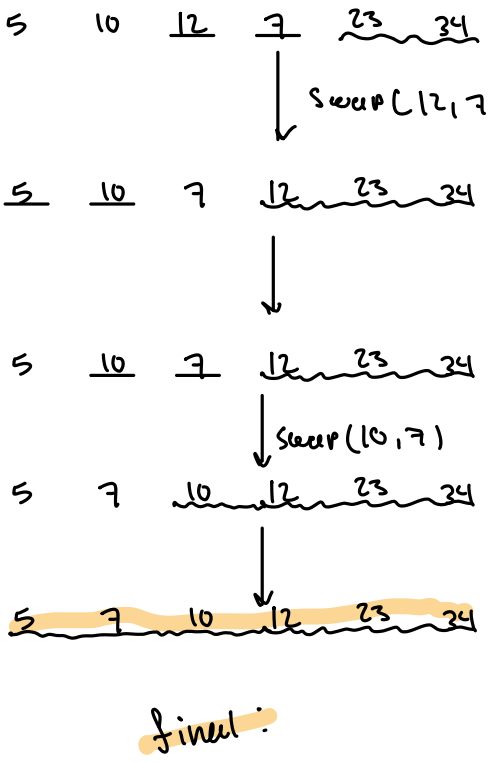
insertion Sort:



final : 5 7 10 12 23 34

Bubble sort


12 23 5 10 34 7
1. is 12 < 23? yes → don't move
12 23 5 10 34 7
Swap (23, 5)
2. is 23 < 5? no → swap!
12 5 23 10 34 7
Swap (23, 10)
3. is 23 < 10? NO! → swap!
12 5 10 23 34 7
4. is 23 < 34? yes! → don't move
12 5 10 23 34 7
Swap (34, 7)
5. is 34 < 7? no → swap!
largest element at end do operation to [0] - [4]
12 5 10 23 7 34
6. 12 < 5? No! → swap!
5 12 10 23 7 34
Swap (12, 10)
7. 12 < 10? No! → swap
5 10 12 23 7 34
Do nothing
8. is 12 < 23? Yes → do nothing
5 10 12 23 7 34
Swap (23, 7)
9. is 23 < 7? no! → swap
5 10 12 7 23 34
10. 23 < 34? Y → Do nothing
5 10 12 7 23 34
11. 5 < 10? yes → Do nothing
5 10 12 7 23 34
12. 10 < 12? yes → do nothing



13. 12 < 7? No → swap!

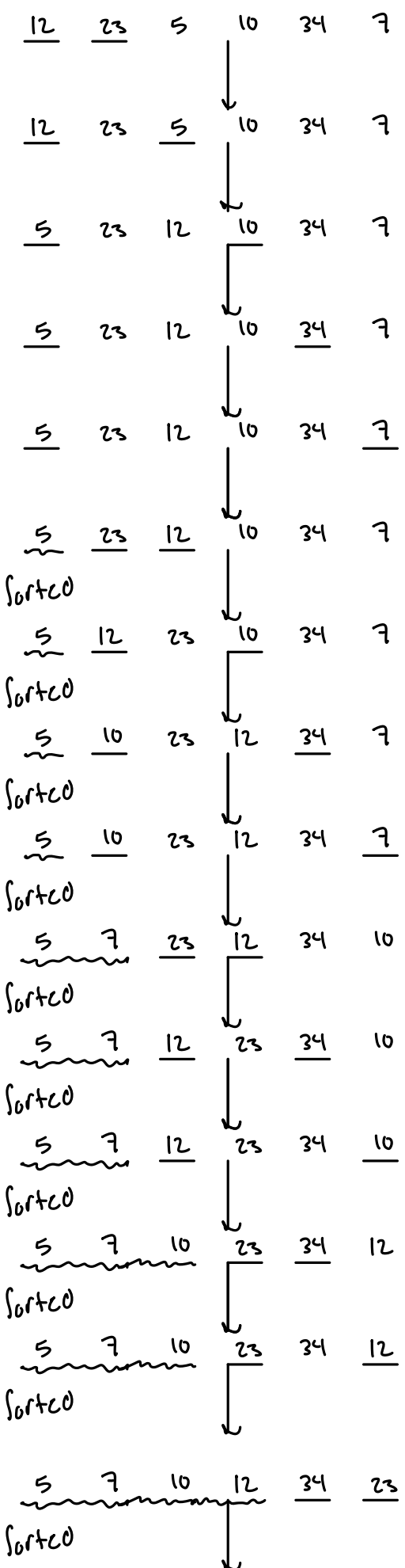
14. is 5 < 10? Y → Do nothing

15. is 10 < 7? No → swap

16. is 5 < 7? Yes → Do nothing

final!

Exchange Sort:

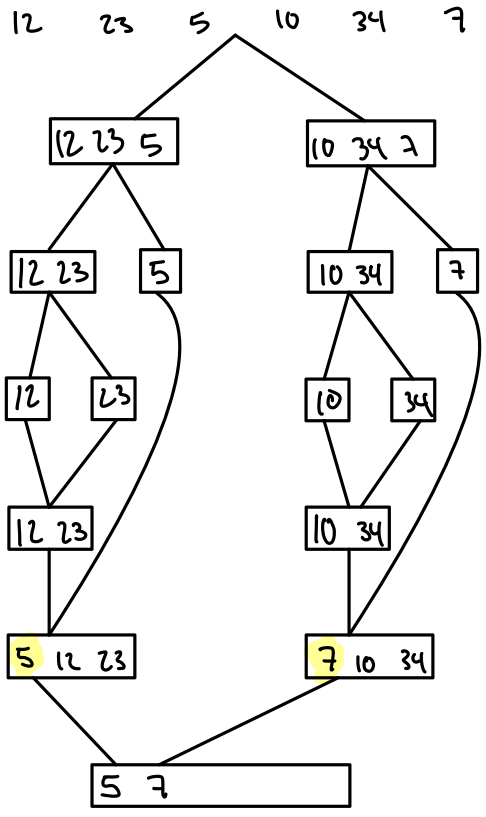


1. 12 < 25? Y → no swap
2. 12 < 5? no → swap(12, 5)
3. 5 < 10? Y → Do nothing
4. 5 < 34? Y → Do nothing
5. 5 < 7? Y → Do nothing
4. 23 < 12? No → swap(23, 12)
5. 12 < 10? NO → swap(12, 10)
6. 10 < 34? yes → Do nothing
7. 10 < 7? no → swap(10, 7)
8. 23 < 12? No → swap (23, 12)
9. 12 < 34? Yes → Do nothing
10. 12 < 10? No → swap (12, 10)
11. 23 < 34? Yes → Do nothing
12. 23 < 12? No → swap(23, 12)
13. 34 < 23? NO → swap(34, 23)

final:

5 7 10 12 23 34

Merge sort:



1. Split into two

2. Split, since each have 3 elements

they'll have 1 remainder each

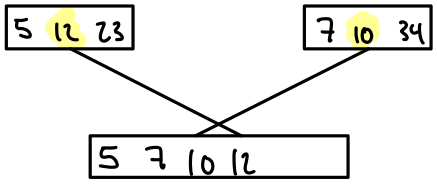
3. Split into seperate numbers

4. Merge element together from small to large

5. Merge remainder from small to large

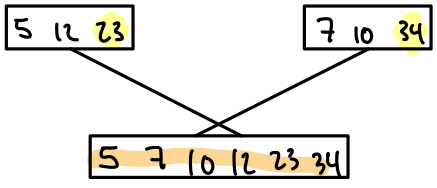
6. Compare left array with right and insert accordingly

5 < 7 ? yes → enter 5 then 7



7. Compare left array with right and insert accordingly

12 < 10 ? no → enter 10 then 12



8. Compare left array with right and insert accordingly

23 < 34 ? yes → enter 23 then 34

finall: