

## Lab 15 - Bubble Sort

- 1.) | 13 | 7 | 24 | 9 | 4 | 14 | 25 | 8 | 6 | 12 | SWAP 13 & 7
- 2.) | 7 | 13 | 24 | 9 | 4 | 14 | 25 | 8 | 6 | 12 | Keep 13 & 24 → SWAP 24 & 9
- 3.) | 7 | 13 | 9 | 24 | 4 | 14 | 25 | 8 | 6 | 12 | Swap 24 & 4
- 4.) | 7 | 13 | 9 | 4 | 24 | 14 | 25 | 8 | 6 | 12 | Swap 24 & 14
- 5.) | 7 | 13 | 9 | 4 | 14 | 24 | 25 | 8 | 6 | 12 | Keep 24 & 25 → Swap 25 & 8
- 6.) | 7 | 13 | 9 | 4 | 14 | 24 | 8 | 25 | 6 | 12 | Swap 25 & 6
- 7.) | 7 | 13 | 9 | 4 | 14 | 24 | 8 | 6 | 25 | 12 | Swap 25 & 12
- 8.) | 7 | 13 | 9 | 4 | 14 | 24 | 8 | 6 | 12 | 25 | First Pass Complete → Keep 7 & 13  
→ Swap 13 & 9
- 9.) | 7 | 9 | 13 | 4 | 14 | 24 | 8 | 6 | 12 | 25 | Swap 13 & 4
- 10.) | 7 | 9 | 4 | 13 | 14 | 24 | 8 | 6 | 12 | 25 | Keep 13 & 14 → Keep 14 & 24  
→ Swap 24 & 8
- 11.) | 7 | 9 | 4 | 13 | 14 | 8 | 24 | 6 | 12 | 25 | Swap 24 & 6
- 12.) | 7 | 9 | 4 | 13 | 14 | 8 | 6 | 24 | 12 | 25 | Swap 24 & 12
- 13.) | 7 | 9 | 4 | 13 | 14 | 8 | 6 | 12 | 24 | 25 | Second Pass Complete → Keep 7 & 9  
→ Swap 9 & 4
- 14.) | 7 | 4 | 9 | 13 | 14 | 8 | 6 | 12 | 24 | 25 | Keep 9 & 13 → Keep 13 & 14  
→ Swap 14 & 8
- 15.) | 7 | 4 | 9 | 13 | 8 | 14 | 6 | 12 | 24 | 25 | Swap 14 & 6
- 16.) | 7 | 4 | 9 | 13 | 8 | 6 | 14 | 12 | 24 | 25 | Swap 14 & 12
- 17.) | 7 | 4 | 9 | 13 | 8 | 6 | 12 | 14 | 24 | 25 | Third Pass Complete → Swap 7 & 4

18.) 4 | 7 | 9 | 3 | 8 | 6 | 12 | 14 | 24 | 25 | Keep 7 & 9 → Keep 9 & 12  
→ Swap 13 & 8

19.) 4 | 7 | 9 | 8 | 3 | 6 | 12 | 14 | 24 | 25 | Swap 13 & 6

20.) 4 | 7 | 9 | 8 | 6 | 3 | 12 | 14 | 24 | 25 | Swap 13 & 12

21.) 4 | 7 | 9 | 8 | 6 | 12 | 13 | 14 | 24 | 25 | Fourth Pass Complete → Keep 4 & 7  
→ Keep 7 & 9 → Swap 9 & 8

22.) 4 | 7 | 8 | 9 | 6 | 12 | 13 | 14 | 24 | 25 | Swap 9 & 6

23.) 4 | 7 | 8 | 6 | 9 | 12 | 13 | 14 | 24 | 25 | Keep 9 & 12 → Fifth Pass Complete  
→ Keep 4 & 7 → Keep 7 & 8 → Swap 8 & 6

24.) 4 | 7 | 6 | 8 | 9 | 12 | 13 | 14 | 24 | 25 | Keep 8 & 9 → Sixth Pass Complete  
→ Keep 4 & 7 → Swap 7 & 6

25.) 4 | 6 | 7 | 8 | 9 | 12 | 13 | 14 | 24 | 25 |  
→ Keep all Remaining Values for next 9 checks & Finish

Total Swaps : 25

Total Passes : 9