

Course: CSC340.03

Student: Mark Kim

Instructor: Duc Ta

Assignment Number: 04

Due Date & Time: 12-10-2019 at 11:55 PM

Assignment 04

1. Selection Sort

Selection Sort (Smallest to Final Position)

1	9	-6	3	9	2	5	-5	-8	3
-8	9	-6	3	9	2	5	-5	1	3
	-6	9	3	9	2	5	-5	1	3
		-5	3	9	2	5	9	1	3
			1	9	2	5	9	3	3
				2	9	5	9	3	3
					3	5	9	9	3
						3	9	9	5
							5	9	9
								9	9
-8	-6	-5	1	2	3	3	5	9	9

2. Insertion Sort

Insertion Sort (Sorted Sublist)

1	9	-6	3	9	2	5	-5	-8	3
1	9								
1	9	-6							
-6	1	9	3						
-6	1	3	9	9					
-6	1	3	9	9	2				
-6	1	2	3	9	9	5			
-6	1	2	3	5	9	9	-5		
-6	-5	1	2	3	5	9	9	-8	
-8	-6	-5	1	2	3	5	9	9	3
-8	-6	-5	1	2	3	3	5	9	9

3. Shell Sort

Shell Sort (Almost Sorted Sublist)

1	9	-6	3	9	2	5	-5	-8	3	10/2=5
1					2					
	5					9				
		-6					-5			
			-8					3		
				3					9	
1	5	-6	-8	3	2	9	-5	3	9	5/2=2
-6		1		3		3		9		
	-8		-5		2		5		9	
-6	-8	1	-5	3	2	3	5	9	9	2/2=1
-6	-8									
-8	-6	1								
-8	-6	1	-5							
-8	-5	-5	1	3						
-8	-5	-5	1	3	2					
-8	-5	-5	1	2	3	3				
-8	-5	-5	1	2	3	3	5			
-8	-5	-5	1	2	3	3	5	9		
-8	-5	-5	1	2	3	3	5	9	9	

4. Bubble Sort

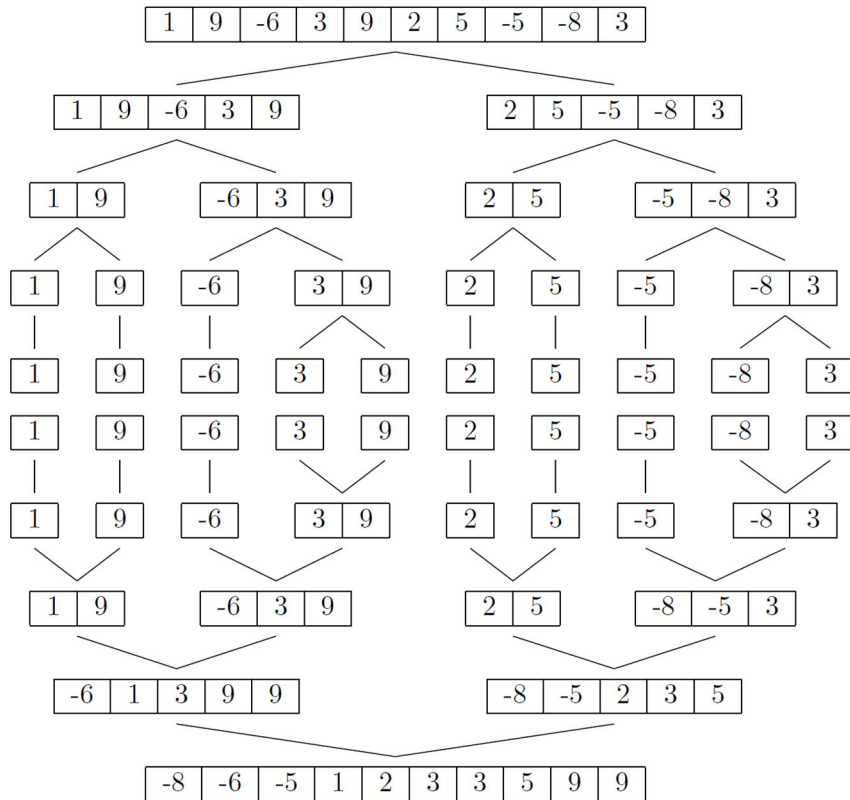
Bubble Sort (Highest Neighbor to Final Position)

1st Pass									
1	9	-6	3	9	2	5	-5	-8	3
1	9	-6	3	9	2	5	-5	-8	3
1	-6	9	3	9	2	5	-5	-8	3
1	-6	3	9	9	2	5	-5	-8	3
1	-6	3	9	9	2	5	-5	-8	3
1	-6	3	9	2	9	5	-5	-8	3
1	-6	3	9	2	5	9	-5	-8	3
1	-6	3	9	2	5	-5	9	-8	3
1	-6	3	9	2	5	-5	-8	9	3
1	-6	3	9	2	5	-5	-8	3	9
2nd Pass									
1	-6	3	9	2	5	-5	-8	3	9
-6	1	3	9	2	5	-5	-8	3	9
-6	1	3	9	2	5	-5	-8	3	9
-6	1	3	9	2	5	-5	-8	3	9
-6	1	3	2	9	5	-5	-8	3	9
-6	1	3	2	5	9	-5	-8	3	9

-8	-6	-5	1	2	3	3	5	9	9
-8	-6	-5	1	2	3	3	5	9	9

5. Merge Sort

Merge Sort



Merge Sort (Recursive Dividing to Merge)

1	9	-6	3	9	2	5	-5	-8	3
1	9	-6	3	9	2	5	-8	-5	3
-6	1	3	9	9	-8	-5	2	3	5
-8	-5	-5	1	2	3	3	5	9	9

6. Quick Sort

Quick Sort (Pivot)

◇

1	9	-6	3	9	2	5	-5	-8	3
1	9	-6	3	9	2	5	-5	-8	3

◇

-8	9	-6	3	9	2	5	-5	1	3
----	---	----	---	---	---	---	----	---	---

-8	9	-6	3	9	2	5	-5	1	3
----	---	----	---	---	---	---	----	---	---

◆

-8	1	-6	3	9	2	5	-5	9	3
-8	1	-6	3	9	2	5	-5	9	3

◆

-8	-5	-6	3	9	2	5	1	9	3
-8	-5	-6	3	9	2	5	1	9	3
-8	-5	-6	3	9	2	5	1	9	3

◆

-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3

◆

-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3
-8	-5	-6	1	9	2	5	3	9	3

◆

-8	-5	-6	1	9	2	5	3	9	3
----	----	----	---	---	---	---	---	---	---

◆

-8	-6	-5	1	9	2	5	3	9	3
-8	-6	-5	1	9	2	5	3	9	3

◆

-8	-6	-5	1	9	2	5	3	9	3
----	----	----	---	---	---	---	---	---	---

◆

-8	-6	-5	1	9	2	5	3	9	3
----	----	----	---	---	---	---	---	---	---

◆

[illegible]

\diamond

-8	-6	-5	1	3	2	5	3	9	9
-8	-6	-5	1	3	2	5	3	9	9
-8	-6	-5	1	3	2	5	3	9	9
-8	-6	-5	1	3	2	5	3	9	9

 \diamond

-8	-6	-5	1	2	3	5	3	9	9
-8	-6	-5	1	2	3	5	3	9	9

 \diamond

-8	-6	-5	1	2	3	5	3	9	9
----	----	----	---	---	---	---	---	---	---

 \diamond

-8	-6	-5	1	2	3	5	3	9	9
-8	-6	-5	1	2	3	5	3	9	9

 \diamond

-8	-6	-5	1	2	3	3	5	9	9
-8	-6	-5	1	2	3	3	5	9	9

 \diamond

-8	-6	-5	1	2	3	3	5	9	9
----	----	----	---	---	---	---	---	---	---

 \diamond

-8	-6	-5	1	2	3	3	5	9	9
----	----	----	---	---	---	---	---	---	---

-8	-6	-5	1	2	3	3	5	9	9
----	----	----	---	---	---	---	---	---	---