

# Data Structures and Algorithms Lab

**Lab 07 – Answer Sheet****Marks 05****Roll #:****Name:****Instructions**

Tabulate your results in the given tables against the appropriate entry and submit it to the instructor.

**A. Data – Random Order**

Input Size	Bubble sort			Selection sort			Insertion sort		
	Time	Key comp.	Data movements	Time	Key comp.	Data movements	Time	Key comp.	Data movements
500		124750	58498		124750	499		58498	58498
6000		17997000	9020686		17997000	5999		9020686	9020686
8000		31996000	15919518		31996000	7999		15919518	15919518
12000		71994000	35688166		71994000	11999		35688166	35688166
14000		97993000	48586272		97993000	13999		48586272	48586272
16000		127992000	64798296		127992000	16999		64798297	64798296
18000		161991000	81437780		161991000	17999		81437780	81437780
20000		199990000	100981388		199990000	19999		100981389	100981388

**B. Data – Sorted in Ascending Order**

Input Size	Bubble sort			Selection sort			Insertion sort		
	Time	Key comp.	Data movements	Time	Key comp.	Data movements	Time	Key comp.	Data movements
500	---	124750	0	---	124750	499	---	499	0
6000	---	17997000	0	---	17997000	5999	---	5999	0
8000	---	31996000	0	---	31996000	7999	---	7999	0
12000	---	71994000	0	---	71994000	11999	---	11999	0
14000	---	97993000	0	---	97993000	13999	---	13999	0
16000	---	127992000	0	---	127992000	16999	---	16999	0
18000	---	161991000	0	---	161991000	17999	---	17999	0
20000	---	199990000	0	---	199990000	19999	---	19999	0

**C. Data – Sorted in Descending Order**

Input Size	Bubble sort			Selection sort			Insertion sort		
	Time	Key comp.	Data movements	Time	Key comp.	Data movements	Time	Key comp.	Data movements
500		124750	124748		124750	499		124748	124748
6000		17997000	17996475		17997000	5999		17996475	17996475
8000		31996000	31995046		31996000	7999		31995046	31995046
12000		71994000	71991846		71994000	11999		71991846	71991846
14000		97993000	97989966		97993000	13999		97989966	97989966
16000		127992000	127988092		127992000	16999		127988092	127988092
18000		161991000	161986173		161991000	17999		161986173	161986173
20000		199990000	199983986		199990000	19999		199983986	199983986