DSA Lab 2 – Quadratic Sorting Algorithms

Write a program to sort 20 integers into descending ordering using simple sort algorithms: Bubble Sort, Insertion Sort and Selection Sort. Modify the algorithms so that the programs are able to count and print the number of passes, the number of data comparisons and the number of data swapping that take place in the sorting process.

a. Run the programs on the following list of integer values. You can initialize the data in the array declarations:

int dataArrayA[20] = {…….};

int dataArrayB[20] = {…….};

2	10	24	19	27	27	31	32	41	49	42	55	56	83	75	66	88	90	91	95

dataArrayA

98	94	80	83	81	63	80	72	70	61	54	54	41	40	29	35	24	17	8	3

dataArrayB

b. **dataArrayA** is an example of a worst cast data while **dataArrayB** is an example of best-case data. Print the following table to summary the performance for quadratic sorting techniques.

Technique	**Case**	**No of Comparisons**	**No of Swaps**	**No of Passes**
Conventional Bubble Sort	Worse Case			
	Best Case			
Improved Bubble Sort	Worse Case			
	Best Case			
Selection Sort	Worse Case			
	Best Case			
Insertion Sort	Worse Case			
	Best Case			