



Sheet # 23: Sorting

- ▶ Textbook: Introduction to Java Programming and Data Structures, Comprehensive Version (12th Edition)
- ▶ This sheet covers chapter 23 “Sorting”

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➤ Check Point Questions:

Review the questions at the following URL:

<https://liveexample.pearsoncmg.com/checkpoint12/Chapter23.html>

➤ Solve the following Programming Exercises from the textbook (pages 917-921)

- 23.1                      23.3                      23.5                      23.7                      23.9                      23.11
- 23.14                      23.18

➤ Mini Project: Execution time for Sorting

Write a program that obtains the execution time of selection sort, radix sort, bubble sort, merge sort, quick sort, and heap sort for input size 50000, 100,000, 150,000, 200,000, 250,000, and 300,000. Your program should create data randomly and print a table like this:

Array size	Selection Sort	Radix Sort	Bubble Sort	Merge Sort	Quick Sort	Heap Sort
50000						
100000						
150000						
200000						
250000						
300000						

In the same program, obtain the execution time of selection sort, radix sort, bubble sort, and heap sort for input size given in the preceding table.

(Hint: You can use the code template below to obtain the execution time.)

```
long startTime = System.currentTimeMillis();
perform the task;
long endTime = System.currentTimeMillis();
long executionTime = endTime - startTime;
```

*With our best wishes;*