Arseniy Dolgin CS-102

Homework 2

Part 3, Sorting, Exercise 3.2:

Given Array: 4 77 98 30 20 50 77 22 49 2

Bubble Sort Non-Recursive (5pts):

4 77 98 30 20 50 77 22 49 2 -> 4 77 98 30 20 50 77 22 49 2 -> 4 77 98 30 20 50 77 22 49 2 -> 4 77 30 98 20 50 77 22 49 2 -> 4 77 30 20 98 50 77 22 49 2 -> 4 77 30 20 50 98 77 22 49 2…

Selection Sort (Non-recursive) (5pts):

4 77 98 30 20 50 77 22 49 2 -> 2 4 77 98 30 20 50 77 22 49 -> 2 4 20 77 98 30 50 77 22 49 -> 2 4 20 22 77 98 30 50 77 49 -> 2 4 20 22 30 77 98 50 77 49….

Insertion Sort (Non-recursive) (5pts) :

4 77 98 30 20 50 77 22 49 2 -> 4 77 98 30 20 50 77 22 49 2 -> 4 77 98 30 20 50 77 22 49 2 -> 4 30 77 98 20 50 77 22 49 2 -> 4 20 30 77 98 50 77 22 49 2 -> 4 20 30 50 77 98 77 22 49 2….

Merge Sort (Recursive) (5pts) :

4 77 98 30 20 50 77 22 49 2 -> 4 77 98 30 20 + 50 77 22 49 2 -> 4 77 98 + 30 20 + 50 77 22 + 49 2 -> 4 77 + 98 + 20 30 + 50 + 77 22 + 49 2 -> 4 77 98 + 20 30 50 + 2 22 49 77…

Quick Sort (Recursive) (5pts):

4 77 98 30 20 50 77 22 49 2 – partition around 50 – mid element { 4 30 20 22 2 49} {77 98 77}

Keep splitting and partitioning.