CENG 112 – DATA STRUCTURES
Homework 4

April 26, 2016

Due Date: May 11$^{\text{th}}$, 2016

Programming Assignment 1.1   Natural mergesort

Solve the creative problem 2.2.16 in the book. Submit your solution as "NaturalMerge.java"

Programming Assignment 1.2   List

Implement a List ADT that supports the following operations using linked lists.

- `void insertBack(Comparable elem)` inserts a new element at the back.

- `Item removeBack()` removes and returns an element from the back.

- `int size()` returns the number of list elements.

- `void sort()` sorts the list in ascending order using the natural mergesort that you have implemented above.

- `void print()` prints the elements of the list seperated by commas and a single space.

Submit your implementation as "List.java".

Programming Assignment 1.3   Nonrecursive quicksort

Solve the creative problem 2.3.20 in the book. Submit your solution as "QuickSortNR.java"

Programming Assignment 1.4   Fast 3-way partitioning

Solve the creative problem 2.3.22 in the book. Submit your solution as "QuickSortF3W.java"