Data Structures
Lesson 5

BSc in Computer Science
University of New York, Tirana

Assoc. Prof. Marenglen Biba

Lab Session - Outline

- Implementation exercises on doubly linked lists
  - Implement additional operators on the data structure

Solved Exercises: Ex. 1

- Doubly Linked List

  - Substitute one element x of the list with another one y.

  - *Hint: public void substitute(AnyType x, AnyType y, Comparator<AnyType> cmp)*

Solved Exercises: Ex. 2

- Double Linked List
  - Remove elements from index1 to index2 (including elements at both indexes)
  - *public void remove(index1, index2)*

Solved Exercises: Ex. 3

- Double Linked List
  - Exchange elements in index1 and index2
  - *public void swap(index1, index2)*

Solved Exercises: Ex. 4

- Double Linked List
  - Copy elements from index1 to index2, and paste them after index3 preserving the order
  - *public void copyAndPaste(index1, index2,index3)*

Solved Exercises: Ex. 5

- Double Linked List
  - Cut elements from index1 to index2, and paste them after index3 preserving the order
  - *public void cutAndPaste(index1, index2,index3)*

Solved Exercises: Ex. 6

- Double Linked List

  - Copy elements from the list from index1 to index2, and paste them into List2 after index3 preserving the order

  - *public void cutAndPasteIntoList(index1, index2,index3,List2)*

Solved Exercises: Ex. 7

- Double Linked List
  - Copy the elements from the list from index1 to index2, and paste them into List2 after index3 in reverse order

  - *public void cutAndPasteIntoListReverse(index1, index2,index3,List2)*

Solved Exercises: Ex. 8

- Double Linked List
  - Move all the occurrences of element x at the end of the list.
  - *public void moveAtTheEnd(AnyType x,Comparator<AnyType> cmp)*

Solved Exercises: Ex. 9

- Double Linked List
  - In a sorted list, move all elements larger than x at the beginning of the list.
  - *public void moveLargerAtTheFront(AnyType x,Comparator<AnyType> cmp)*

Solved Exercises: Ex. 10

- Double Linked List

  – Replace all the occurrences of element x with the pattern y, x, z.

  – *public void surround (AnyType x, y, z, Comparator<AnyType> cmp)*

End of class