

Data Structures

PSS 6

March 2, 2024

Linked Positional Lists

- 1) Implement a `CircularlyPositionalList` class which implements the `PositionalList` interface with the logic of circularly linked list (like `LinkedPositionalList` uses the logic of doubly linked list).
- 2) Write a simple text editor that stores and displays a string of characters using the positional list ADT together with the cursor object that highlights a position in the string. The editor must support the following positions:
 - left: Move cursor left one character (do nothing if at beginning).
 - right: Move cursor right one character (do nothing if at end).
 - insert c: Insert the character c just after the cursor.
 - delete: Delete the character just after the cursor (if not at end).

Iterators

- 1) You are given an array list of integers. You need to sort the elements using Selection sort. Note that you are not allowed to use for loops. The task should be done using iterators explicitly.
- 2) In the `ArrayList` class implement a method `oddIterator` which would return an iterator of all elements at odd indices only.
- 3) Implement a new iterator in the `ArrayList` which would iterate over all the elements forth and back.
e.g. We have an `ArrayList` containing elements: 18,6,4,10,9
the full iteration will contain 18,6,4,10,9,9,10,4,6,18