Linked List 1

Develop linked List which consists of functions as follows

1. Linked List consists of nodes which can store ID (integer type) for example: 12, 34, 58, 102...

2. Add a new node into this linked list by finding the node ID in this linked list. There are two methods to add a new node into this linked list as follows:

2.1 Insert Before: a new node is inserted before the first node that contains the same ID on this linked list.

2.2 Insert After: a new node is inserted after the first node that contains the same ID on this linked list.

If node ID cannot be found, this function will add the new node at the last position of this linked list.

Note that, it is not possible to add the new node that duplicate ID with the others on this linked list.

3. Delete a node from this linked list using node ID. If there is only one node or cannot find the node ID on this linked list, do nothing.

4. When this linked list is changed from insert or delete operation, shows all node ID following by the whitespace for example:

3 10 12 15

The format of commands in this program consists of [command] [ID] [VALUE]

[command]: D (delete), I (Insert Before), A (Insert After), E (Exit)

[ID] : ID of the node in this linked list

[VALUE] : value of a new node in the insert operation.

Example

A 1 0 : insert 1 after the node which has id = 0

I 2 1 : insert 2 before the node which has id = 1

D 1 : delete node which has id = 1

E : exit

Input	Output
I 1 0	1
I 2 1	2 1
I 3 0	2 1 3
I 4 2	4 2 1 3
I 5 2	4 5 2 1 3
I 4 2	4 5 2 1 6 3
I 5 3	4 10 5 2 1 6 3
I 6 3	4 10 5 2 1 6 3 11
I 10 5	4 10 5 2 1 6 3 11 12
I 11 100	4 10 5 2 1 6 3 12
I 12 200	10 5 2 1 6 3 12
D 11	10 5 2 1 6 3
D 4	10 5 1 6 3
D 12	10 13 5 1 6 3
D 2	10 13 5 14 1 6 3
A 13 10	10 13 5 14 1 6 3 15
A 14 5	
A 15 200	
E	