Lab 8

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A description of the objectives/concepts explored in this assignment including why you think they are important to this course and a career in CS and/or Engineering.

The objective of this lab is to experience creating and using an ordered linked list. After this lab, we knew that Linked List is already a tough data structure to learn, but to implement it is way more difficult. Also, to make the list in order was tough as well since this was a double linked list. This lab helps us to have a smooth transition into another much more challenging data type such Binary Tree. Furthermore, this lab was a great example of using data type for us to explore, in which we would use a lot in our future professional world. In the further future, we will not only use single Linked List and Doubly Linked List, but also have to work on something like a Circular List.

Task 4:

Explain the choice of key members in your lab report

Key: Description, SKU, and price, we chose them because they gave the most detail you needed that you could not find visually.

A discussion of what code you could reuse in Task 4 and what code you had to rewrite including why it had to be rewritten

For task 4, we did not rewrite any code, instead we used what we got from task 1 to 3. We reuse the all the code task 1 to 3, in which we use all of the above code we have such as those code to take in the SKU, description, UOM, and price, for specific we use seeNext() and seePrev() to get the information of SKU. We made a new function call ASCII() to output what user has input of the SKU list. However, we did rewrite the switch case in main to have a new option of display the SKU.

Screenshot of the output:

We programmed and executed using Replit!

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 4

The list is empty.
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 1

Please enter the following information:

SKU: 10

Description: Hi

Price: 99
```

```
UOM: mm

Item has been added!

Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 1

Please enter the following information:

SKU: 19

Description: Great~!

Price: 89

UOM: km

Item has been added!
```

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 1

Please enter the following information:

SKU: 30

Description: LaLaLaLa!!!

Price: 797

UOM: dm

Item has been added!
```

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 1

Please enter the following information:

SKU: 49

Description: wonderful

Price: 1999

UOM: kg

Item has been added!
```

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 5

Size: 4
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 4
```

```
Enter your choice: 4

The list is not empty.
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 6

Information of the item at the pointer P is: 10: Hi
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 6

Information of the item at the pointer P is: 10: Hi
```

```
1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 6

Information of the item at the pointer P is: 19: Great~!
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 7

Information of the item at the pointer P is: 30: LaLaLaLa!!!
Options:
```

```
1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 8

Please input the index you want to check: 3

Information of the item at the pointer P is: 49: wonderful
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 2

Please enter the SKU: 49

Information:
49: wonderful
Options:
```

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 3

Please Enter the SKU: 78

The item is not in the list.
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 3

Please Enter the SKU: 49
```

The item is not in the list.
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 10

|Hi|SKU: 10.000000|PRICE: 99.000000|

|Great~!|SKU: 19.000000|PRICE: 89.000000|

|LaLaLaLa!!!|SKU: 30.000000|PRICE: 797.000000|

Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 9

```
   2. GetItem
   3. IsInlist
   4. IsEmpty
   5. Size
   6. SeeNext
   7. SeePrev
   8. SeeAt
   9. Reset
   10. Display
   11. Quit

   Enter your choice: 4

   The list is not empty.
   Options:

   1. AddItem
   2. GetItem
   3. IsInlist
   4. IsEmpty
   5. Size
   6. SeeNext
   7. SeePrev
   8. SeeAt
   9. Reset
   10. Display
   11. Quit

   Enter your choice: 10

   ------------------------------------
   |Hi|SKU: 10.000000|PRICE: 99.000000|
   -------------------------------------
   ------------------------------------------
   |Great~!|SKU: 19.000000|PRICE: 89.000000|
   ------------------------------------------
   ------------------------------------------------
   |LaLaLaLa!!!|SKU: 30.000000|PRICE: 797.000000|
   ------------------------------------------------
```

```
Options:

1. AddItem
2. GetItem
3. IsInlist
4. IsEmpty
5. Size
6. SeeNext
7. SeePrev
8. SeeAt
9. Reset
10. Display
11. Quit

Enter your choice: 11
```