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COMP-SCI 303

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My Assignment 2 Notes

My Coding Assumptions

- For the Single Linked Lists - I am assuming that whenever the user is prompted to enter a number or index, they do not give any malicious input, namely either characters or words (strings).

How to Run my Program

1. Choose an option from the displayed menu - must type the integer to select option
2. After choosing a valid option, the program runs code for given option and displays the current state of the single linked list
3. After finishing the chosen option, the displayed menu reappears.
4. Continues this process until user quits (selects option 11 - quit)
5. After the user has quit, a unit test for the derived classes, Professional and Non-Professional, outputs displays whether or not the unit test case passed or failed.

Screenshots

```
Microsoft Visual Studio Debu...
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: i
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
File opened successfully!
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: i
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: i
Enter a number to check: 4
The integer 4 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu...
TESTING SINGLE LINKED LIST METHODS

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 5
Front: None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 1
Enter a Number:
1
1 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
```

```
Microsoft Visual Studio Debu x
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: i
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
Could not open test2.txt
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: i
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: i
Enter a number to check: 4
The integer 4 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu x
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 2
Enter a Number:
2
1 -> 2 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 6
Back: 1

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
```

```
Microsoft Visual Studio Debu x
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: 1
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
Could not open test2.txt
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: 1
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: 1
Enter a number to check: 4
The integer 4 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu x
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 1
Enter a Number:
5
5 -> 3 -> 1 -> 2 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 3
3 -> 1 -> 2 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 4
3 -> 1 -> None
```

```
Microsoft Visual Studio Debu x
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: i
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
File opened successfully!
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: i
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: i
Enter a number to check: 4
The integer 4 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu x
Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 7
Is list empty?
No

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 8
Enter a Number:
9
Enter an Index
1
3 -> 9 -> 1 -> None

Single Linked List Methods:
-----
1. Append to Front
```

```
Microsoft Visual Studio Debu x + -
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: i
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
Could not open test2.txt
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: i
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: i
Enter a number to check: 4
The integer 4 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu x + -
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 9
Enter an Index
2
3 -> 9 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 10
Enter a Number
10
Position not found.
List size: 2

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
```

```
Microsoft Visual Studio Debu...
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: 1
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
Could not open test2.txt
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: 1
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: 1
Enter a number to check: 6
The integer 6 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu...
10. Find Number
11. Quit

Enter a number option: 10
Enter a Number
9
Position: 1

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 8
Enter a Number:
6
Enter an Index
6
3 -> 9 -> 6 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit
```

```
Microsoft Visual Studio Debu x + -
Enter a text file: test.csv
Must be a text (.txt) file.
Enter a text file: 1
Must be a text (.txt) file.
Enter a text file: hi
Must be a text (.txt) file.
Enter a text file: test.txt
Could not open test2.txt
Please try again.

Enter a text file: test.txt
File opened successfully!

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: hi
Please enter a valid number option.
Enter a number option: 1
Enter a number to check: hi
Number does not exist.

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit

Enter a number option: Please enter a valid number option.
Enter a number option: 1
Enter a number to check: 6
The integer 6 exists at index 3

1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
21 22 23 24 25 26 27 28 29 30
31 32 33 34 35 36 37 38 39 40
41 42 43 44 45 46 47 48 49 50
51 52 53 54 55 56 57 58 59 60
61 62 63 64 65 66 67 68 69 70
71 72 73 74 75 76 77 78 79 80
81 82 83 84 85 86 87 88 89 90
91 92 93 94 95 96 97 98 99 100

Text File Number Reader
-----
1. Check a Number
2. Modify a Number
3. Add a Number
4. Delete a Number
5. Quit
```

```
Microsoft Visual Studio Debu x + -
6
3 -> 9 -> 6 -> None

Single Linked List Methods:
-----
1. Append to Front
2. Append to Back
3. Delete Front Number
4. Delete Back Number
5. Check Front Number
6. Check Back Number
7. Check Empty
8. Insert Number
9. Remove Number
10. Find Number
11. Quit

Enter a number option: 11

Quitting program...

TESTING THE CLASSES
Professional class tests passed.
Nonprofessional class tests passed.

C:\Users\owner\source\repos\assignment2\x64\Debug\assignment2.exe (process 28940) exited with code 0.
To automatically close the console when debugging stops, enable Tools->Options->Debugging->Automatically close the console when debugging stops.
Press any key to close this window . . .
```