Course: Programming Fundamental – ENSF 337

Lab #: 8

Instructor: Khedr

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Lab Section: B04

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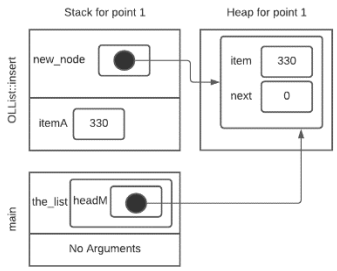
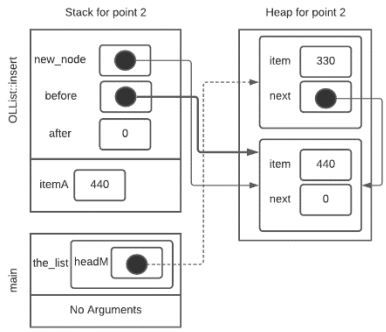
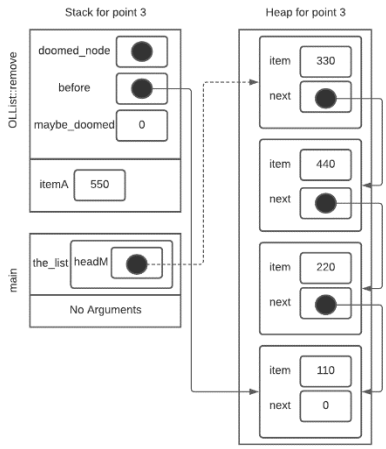
Exercise A


Stack for point 1
Heap for point 1
OLList::insert
new_node
itemA
330
item
330
next
0
main
the_list
headM
No Arguments


Stack for point 2
Heap for point 2
OLList::insert
new_node
before
after
0
itemA
440
item
330
next
item
440
next
0
main
the_list
headM
No Arguments


Stack for point 3
Heap for point 3
OLList::remove
doomed_node
before
maybe_doomed
0
itemA
550
item
330
next
item
440
next
item
220
next
item
110
next
0
main
the_list
headM
No Arguments

Exercise B

```
C:\cygwin64\home\Sixtium\ENSF337\lab8-AleksanderBerezowski\cmake-build-debug\lab8_AleksanderBerezowski.exe
List just after creation. expected to be [ ]
[ ]
the_list after some insertions. Expected to be: [ 99, 110, 120, 220, 330, 440, 550 ]
[ 99, 110, 120, 220, 330, 440, 550 ]
testing for copying lists ...
other_list as a copy of the_list: expected to be [ 99, 110, 120, 220, 330, 440, 550 ]
[ 99, 110, 120, 220, 330, 440, 550 ]
third_list as a copy of the_list: expected to be: [ 99, 110, 120, 220, 330, 440, 550 ]
[ 99, 110, 120, 220, 330, 440, 550 ]
testing for removing and chaining assignment operator...
the_ist after some removals: expected to be: [ 99, 110, 120, 220, 440 ]
[ 99, 110, 120, 220, 440 ]
printing other_list one more time: expected to be: [ 99, 110, 120, 220, 330, 440, 550 ]
[ 99, 110, 120, 220, 330, 440, 550 ]
printing third_list one more time: expected to be: [ 99, 110, 120, 220, 330, 440, 550 ]
[ 99, 110, 120, 220, 330, 440, 550 ]
chaining assignment operator ...
the_list after chaining assignment operator: expected to be: [ 99, 110, 120, 220, 440 ]
[ 99, 110, 120, 220, 440 ]
other_list after chaining: expected to be: [ 99, 110, 120, 220, 440 ]
[ 99, 110, 120, 220, 440 ]
third_list after chaining: expected to be: [ 99, 110, 120, 220, 440 ]
[ 99, 110, 120, 220, 440 ]

Process finished with exit code 0
```

Exercise C

```
C:\cygwin64\home\Sixtium\ENSF337\lab8-AleksanderBerezowski\cmake-build-debug\lab8_AleksanderBerezowski.exe

Program: Flow Studies-Fall 2020
Version: 1.0
Lab section: B04
Produced By: Aleksander Berezowski

<<< Press Enter Twice to Continue >>>



Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
1
Year    Flow
1970    100.34
1901    210.11
1947    310.99
1990    214.98
2002    211.44
1972    219.99
1900    220.11
1922    192.99
1945    145.66
1946    300.99
1971    209.99
1989    234.98
1999    110.99
2000    110.22
2001    231.44
The annual average of the flow is: 201.681 billions cubic metres
```

```
The annual average of the flow is: 201.681 billions cubic metres

<<< Press Enter Twice to Continue >>>



Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
2

Year: 2021

Flow: 100

<<< Press Enter Twice to Continue >>>

Data Added

<<< Press Enter Twice to Continue >>>



Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
3
Data Saved
```

```
Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
3
Data Saved

<<< Press Enter Twice to Continue >>>



Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
4

Year: 2021
```

```
<<< Press Enter Twice to Continue >>>



Please select on the following operations
    1.  Display flow list, and the average.
    2.  Add data.
    3.  Save data into the file.
    4.  Remove data..
    5.  Quit.
    Enter your choice (1, 2, 3, 4, or 5):
5
Exiting Program

Process finished with exit code 0
```