

Programming Fundamental - ENSF 337

Lab 8

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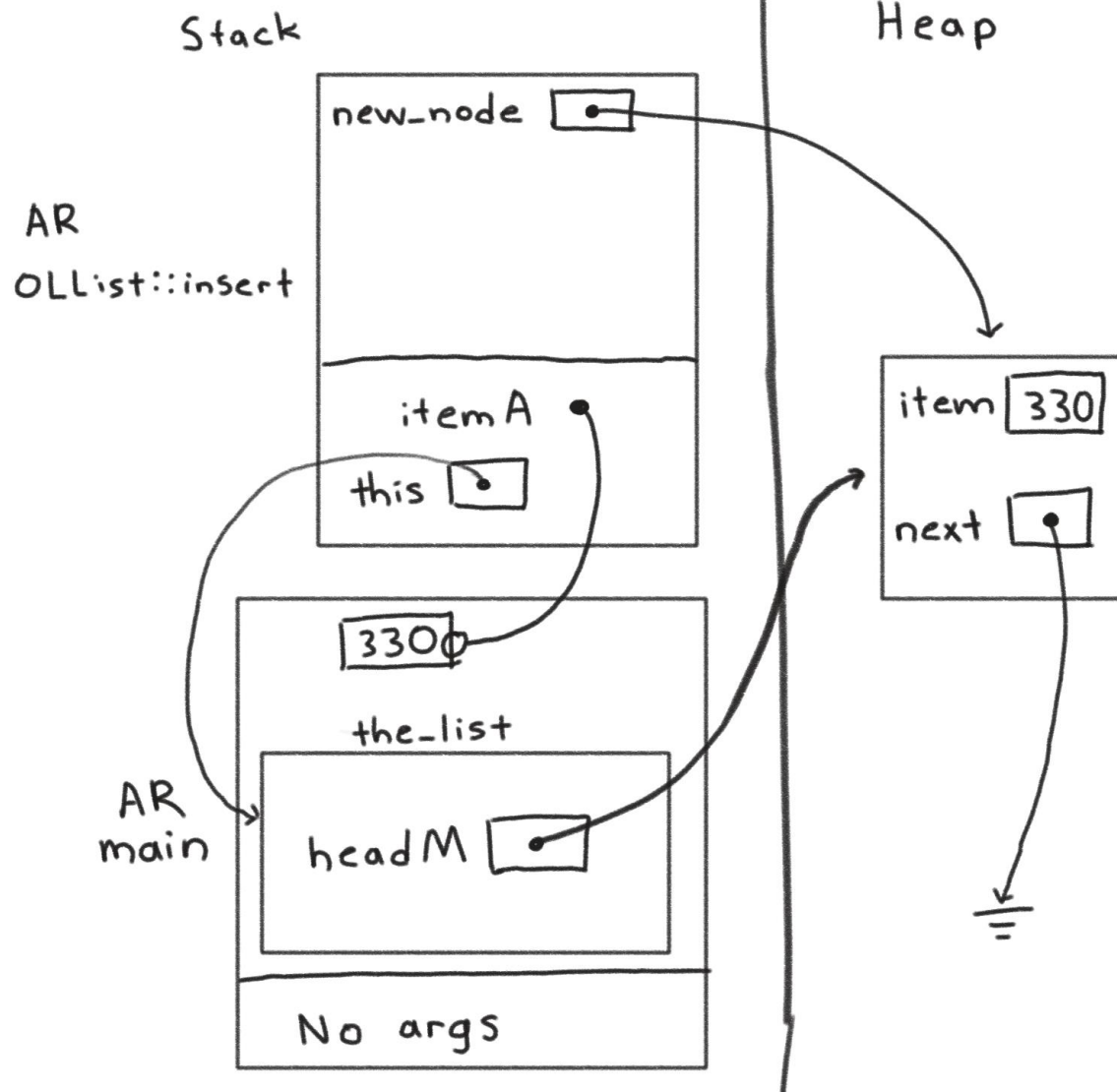
Jay Chuang

B01

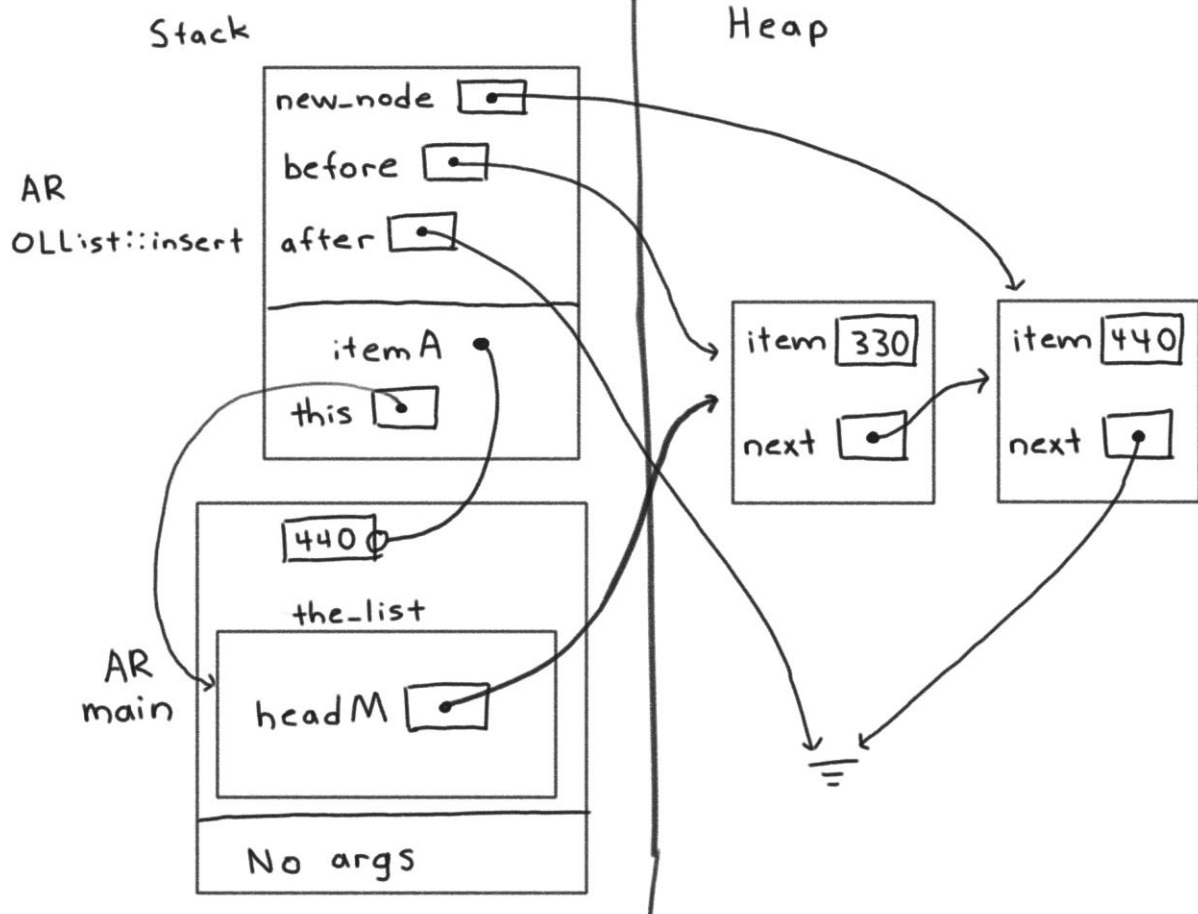
November 21, 2019

EXERCISE C

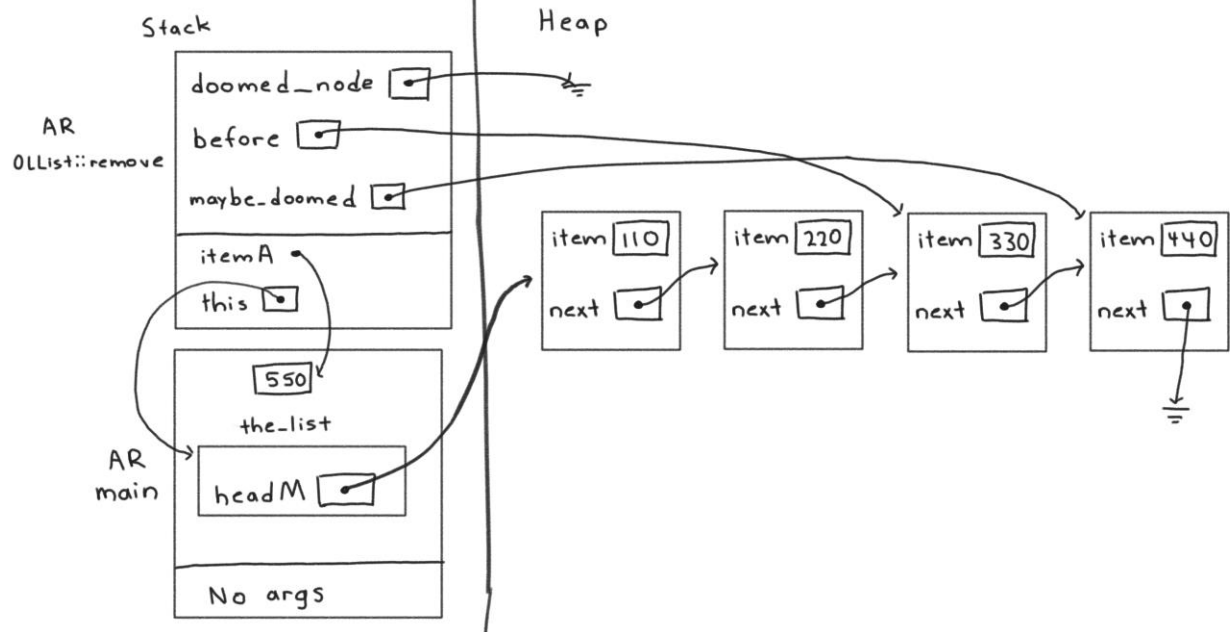
Point 1



Point 2



Point 3



EXERCISE D OUTPUT

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/exD
$ ./a.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_list 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 ]
```

EXERCISE E OUTPUTS

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies - Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
1
```

```
<<< Press enter to Continue>>>
```

Year	Flow (in billions of cubic meters)
------	------------------------------------

1970	100.34
------	--------

2000	110.22
------	--------

1999	110.99
------	--------

1945	145.66
------	--------

1922	192.99
------	--------

1971	209.99
------	--------

1900	210.11
------	--------

2001	211.44
------	--------

1989	214.98
------	--------

1946	219.99
------	--------

1972	220.11
------	--------

1901	231.44
------	--------

2002	234.98
------	--------

1990	300.99
------	--------

1947	310.99
------	--------

```
The annual average of the flow is:201.681 millions cubic meters
```

```
The annual median flow is:211.44 millions cubic meters
```

```
<<< Press enter to Continue>>>
```

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies - Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

1. Display flow list, average and median
2. Add data
3. Save data into the file
4. Remove data
5. Quit

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
2
```

```
<<< Press enter to Continue>>>
```

```
Please enter a valid year to be added:
```

```
2019
```

```
Please enter a valid flow to be added:
```

```
360.12
```

```
Insert Successful!
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

1. Display flow list, average and median
2. Add data
3. Save data into the file
4. Remove data
5. Quit

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
1
```

```
<<< Press enter to Continue>>>
```

Year	Flow (in billions of cubic meters)
------	------------------------------------

1970	100.34
2000	110.22
1999	110.99
1945	145.66
1922	192.99
1971	209.99
1900	210.11
2001	211.44
1989	214.98
1946	219.99
1972	220.11
1901	231.44
2002	234.98
1990	300.99
1947	310.99
2019	360.12

```
The annual average of the flow is:211.584 millions cubic meters
```

```
The annual median flow is:216 millions cubic meters
```

```
<<< Press enter to Continue>>>
```

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow  
$ ./a.exe
```

```
Program: Flow Studies – Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
2
```

```
<<< Press enter to Continue>>>
```

```
Please enter a valid year to be added:
```

```
2000
```

```
Data point already exists!
```

```
<<< Press enter to Continue>>>
```



```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies – Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
2
```

```
<<< Press enter to Continue>>>
```

```
Please enter a valid year to be added:
```

```
2019
```

```
Please enter a valid flow to be added:
```

```
400.12
```

```
Insert Successful!
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
3
```

```
<<< Press enter to Continue>>>
```

```
Data are saved into the file.
```

```
<<< Press enter to Continue>>>
```



flow.txt - Notepad

File Edit Format View Help

1970	100.34
2000	110.22
1999	110.99
1945	145.66
1922	192.99
1971	209.99
1900	210.11
2001	211.44
1989	214.98
1946	219.99
1972	220.11
1901	231.44
2002	234.98
1990	300.99
1947	310.99
2019	400.12

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies - Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
4
```

```
<<< Press enter to Continue>>>
```

```
Please enter a valid year to be removed:
```

```
2000
```

```
delete successfull!
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
1
```

```
<<< Press enter to Continue>>>
```

```
Year
```

```
Flow (in billions of cubic meters)
```

```
1970 100.34
```

```
1999 110.99
```

```
1945 145.66
```

```
1922 192.99
```

```
1971 209.99
```

```
1900 210.11
```

```
2001 211.44
```

```
1989 214.98
```

```
1946 219.99
```

```
1972 220.11
```

```
1901 231.44
```

```
2002 234.98
```

```
1990 300.99
```

```
1947 310.99
```

```
The annual average of the flow is:208.214 millions cubic meters
```

```
The annual median flow is:216 millions cubic meters
```

```
<<< Press enter to Continue>>>
```

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies - Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
4
```

```
<<< Press enter to Continue>>>
```

```
Please enter a valid year to be removed:
```

```
2019
```

```
delete unsuccessfull
```

```
<<< Press enter to Continue>>>
```

```
jaych@DESKTOP-DILG265 /cygdrive/c/ensf337/lab8/flow
```

```
$ ./a.exe
```

```
Program: Flow Studies - Fall 2019
```

```
Version: 1.0
```

```
Lab section: B01
```

```
Produced by: Jay Chuang
```

```
<<< Press enter to Continue>>>
```

```
Please select on the following operations
```

```
1. Display flow list, average and median
```

```
2. Add data
```

```
3. Save data into the file
```

```
4. Remove data
```

```
5. Quit
```

```
Enter your choice (1, 2, 3, 4, of 5):
```

```
5
```

```
Program terminated!
```