

CSCE 221 Assignment 3 Cover Page

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Please list all sources in the table below including web pages which you used to solve or implement the current homework. If you fail to cite sources you can get a lower number of points or even zero, read more on Aggie Honor System Office website: <http://aggiehonor.tamu.edu/>

Type of sources				
People	Abhishek Joshi	Bailey Bauman	Samantha Ray	Chris Ridley
Web pages (provide URL)				
Printed material				
Other Sources				

I certify that I have listed all the sources that I used to develop the solutions/codes to the submitted work.
On my honor as an Aggie, I have neither given nor received any unauthorized help on this academic work.

Your Name Cody Williams Date 03/01/17

CSCE 221 Assignment Report

Part 1 due to CSNet by March 1 with demonstration in labs on February 27/28.

1. Testing

(a) DoublyLinkedList

```
[will77868]@build ~/assignments/Williams-Cody-A3/nontemplated> (08:24:43 03/01/17)
:: g++ -std=c++14 *.cpp

[will77868]@build ~/assignments/Williams-Cody-A3/nontemplated> (08:25:38 03/01/17)
:: ./a.out
Create a new list
list:

Insert 10 nodes at tail with value 10,20,30,...,100
list: 10 20 30 40 50 60 70 80 90 100

Insert 10 nodes at front with value 10,20,30,...,100
list: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Copy to a new list
list2: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Assign to another new list
list3: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Delete the last 5 nodes
list: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50

Delete the first 5 nodes
list: 50 40 30 20 10 10 20 30 40 50

Make sure the other two lists are not affected.
list2: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100
list3: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100
```

i.

(b) TemplateDoublyLinkedList

```
[will77868]@build ~/assignments/Williams-Cody-A3/templated> (08:27:13 03/01/17)
[:: ls
(A Document Being Saved By Xcode) run-tdll TemplateMain.cpp
Makefile TemplateDoublyLinkedList.h TemplateMain.o

[will77868]@build ~/assignments/Williams-Cody-A3/templated> (08:27:14 03/01/17)
[:: make
c++ -std=c++11 -c TemplateMain.cpp
c++ -std=c++11 TemplateMain.o -o run-tdll

[will77868]@build ~/assignments/Williams-Cody-A3/templated> (08:27:17 03/01/17)
[:: ./run-tdll
Create a new list
list:

Insert 10 nodes at back with value 10,20,30,...,100
list: 10 20 30 40 50 60 70 80 90 100

Insert 10 nodes at front with value 10,20,30,...,100
list: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Copy to a new list
list2: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Assign to another new list
list3: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100

Delete the last 10 nodes
list: 100 90 80 70 60 50 40 30 20 10

Delete the first 10 nodes
list:

Make sure the other two lists are not affected.
list2: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100
list3: 100 90 80 70 60 50 40 30 20 10 10 20 30 40 50 60 70 80 90 100
```

i.

2. Function Time Complexities

- (a) copy constructor
 - i. $O(\log n)$
- (b) assignment operator
 - i. $O(\log n)$
- (c) output operator
 - i. $O(\log n)$
- (d) insertFirst
 - i. $O(1)$
- (e) removeFirst
 - i. $O(1)$
- (f) first
 - i. $O(1)$