

CSE Midterm

Darren Roberson

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1 Size of the Array and Random Access

The relationship between the size of array and random access is constant.

```
Size of Array: 10000
Random index number is: 6
Total time taken: 0 ms.
Value obtained from get(index): 3
daredog101@SNOOZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SNOOZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Array: 100000
Random index number is: 2
Total time taken: 0 ms.
Value obtained from get(index): 7
daredog101@SNOOZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SNOOZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Array: 1000000
Random index number is: 10
Total time taken: 0 ms.
Value obtained from get(index): 3
```

2 Size of the Linkedlist and Random Access

The relationship between the size of the linkedList and random access is linear.

```
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make ru
./bin/app
Size of Linked List:          1000000
Random index number is:      1
Total time taken:             3 ms.
Value obtained from get(index): 5
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make ru
./bin/app
Size of Linked List:          10000000
Random index number is:      3
Total time taken:             33 ms.
Value obtained from get(index): 10
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make ru
./bin/app
Size of Linked List:          100000000
Random index number is:      1
Total time taken:             351 ms.
Value obtained from get(index): 10
```

3 Size of the Array and Insertion(Beginning)

The relationship between the size of array and insertion at the start of the array is constant.

```
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make ru
./bin/app
Size of Array:          1000
Total time taken:       0 ms.
Value inserted in array: 8
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make ru
./bin/app
Size of Array:          10000
Total time taken:       0 ms.
Value inserted in array: 6
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make ru
./bin/app
Size of Array:          10000
Total time taken:       0 ms.
Value inserted in array: 1
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$
```

4 Size of the Linkedlist and Insertion(Beginning)

The relationship between the size of the linkedList and insertion at the start of the linkedList is constant.

```
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          1000
Total time taken:             0 ms.
Value inserted in linkedList: 3
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          100000
Total time taken:             0 ms.
Value inserted in linkedList: 6
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          10000000
Total time taken:             0 ms.
Value inserted in linkedList: 5
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$
```

5 Size of the Array and Insertion(End)

The relationship between the size of array and insertion at the end of the array is constant.

```
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make run
./bin/app
Size of Array:          1000
Total time taken:       0 ms.
Value inserted in array: 3
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make run
./bin/app
Size of Array:          100000
Total time taken:       0 ms.
Value inserted in array: 2
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$ make run
./bin/app
Size of Array:          100000000
Total time taken:       0 ms.
Value inserted in array: 4
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberston-master/darren-roberston-master$
```

6 Size of the Linkedlist and Insertion(End)

The relationship between the size of the linkedList and insertion at the end of the linkedList is constant.

```
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          100
Total time taken:             0 ms.
Value inserted in linkedList: 3
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          10000
Total time taken:             0 ms.
Value inserted in linkedList: 1
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make
g++ -c -o obj/app.o src/app.cpp -Iinc -Idep -w -std=c++11
g++ obj/app.o -o bin/app -Iinc -Idep -w -std=c++11
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$ make run
./bin/app
Size of Linked List:          10000000
Total time taken:             0 ms.
Value inserted in linkedList: 8
daredog101@SN00ZE-BOT:/mnt/c/CSE 30/darren-roberon-master/darren-roberon-master$
```