CSC 212: Data Structures and Abstractions
Spring 2019
University of Rhode Island
Weekly Problem Set #7

Due Thursday 4/18 at the beginning of class. Please turn in neat, and organized, answers hand-written on standard-sized paper **without any fringe**. At the top of each sheet you hand in, please write your name, and ID.

1. For each of the following please provide the worst case time complexity for the following linked list structures.

Function	SLL	SLL without Tail	DLL	CDLL
`int size();`				
`int at(int);`				
`int front();`				
`int back();`				
`bool empty();`				
`void clear();`				
`void set(int, int);`				
`void push_back(int);`				
`int pop_back();`				
`void insert(int, int);`				
`void erase(int);`				
`void reverse();`				

2. Describe how to reverse a SLL without a tail.

3. write push() and pop() methods for a stack and queue each represented by a DLL with head and tail pointers. Make sure to account for cases where the structure is empty.

```
void stack::push(int val)

int stack::pop()

void queue::push(int val)

int queue::pop()
```

4. Draw the state of an empty stack and an empty queue after running the following functions for each:

```
push(1); push(2); push(3); pop(); push(4); pop(); pop(); push(5)
```