CSE240 Spring 2017 Project 3
Due time: Friday, Feb 24th, 5:00pm

1 Introduction

In this project, you are asked to design and implement a class for double link list to hold integers:

- The class should be called *DList*, you also need a class called *Node* that contains an int as the data
- Node needs the following data:

```
int data; //the data held by the node
Node* parent; //the parent of the Node
Node* child; //the child of the Node
```

- Node needs the following public functions:

```
Node(int)// constructor to create a Node with the input int
int GetData(); // return the int held by the Node
```

- DList needs a head and tail, both should be pointers to Node, and initialized to NULL
- DList needs a default constructor (no parameter), a copy constructor (take *const DList &* as input)
- DList needs the following public functions:

```
void PushFront(int a); //create a Node containing a
                  //and add it to the front of the list
void PushEnd(int a); //create a Node containing a
                  //and add it to the end of the list
Node* PopFront(); //popping out the first Node of the list,
                  //if the list is empty, return NULL
Node* PopEnd(); //popping out the last Node of the list,
               //if the list is empty, return NULL
void PrintListForward(); //print every element from start to end
                         //in one line separated by a space
void PrintListReverse(); //print every element from end to start
                         //in one line separated by a space
```

2 Files to turn in:

You need to turn in four files in a tar.gz file: *makefile, main.C, DList.C, DList.h*. Among them, you need to use the *main.C* provided from the class web site which you cannot modify at all.

DList.h declares the class DList and Node. You can make DList the friend of Node so it can access the private data of the Node.

3 Other Requirement:

The total points is 10. No late turn in is acceptable, any late turn in will be given 0 points.