**Final Project**

This project is about portfolio account management system which contains 5 files: 4 header files and 1 cpp file in which main function is declared. The four header files are “Account\_Mahrad.h” and “StockAccount\_Mahrad.h”, “ListNode\_Mahrad.h”, “List\_Mahrad.h”

1. “Account\_Mahrad.h”

This file contains “Account” class which is an abstract base class and contains two pure virtual functions setBalance() and getBalance().

1. “StockAccount\_Mahrad.h”

This file contains definitions of a derived class “StockAccount” which is a public inheritance of “Account” class. The whole project is basically defined in this file. This class contains following member functions:

2-1- display stock price

2-2- buy shares

2-3- store account information

2-4- update account information

If a stock which is already in the list is purchased, we use this function.

2-5- store transaction history

Stores each transaction which went through in file called “Stock\_Transctions\_history.txt” which is read at the start of program.

2-6- read account information

From account information file.

2-7- read transaction history

2-8- read stock file (results.txt)

2-9- overloading operator <<

To print out stock information in the linked list.

And set and get functions for data members.

1. “ListNode\_Mahrad.h”

In this file, an object of “StockAccount” is declared as data member of the “Node” class. In other words, each node has a “next” pointer and a data element which is type of “StockAccount”.

1. “List\_Mahrad.h”

In this file, a linked list structure is created which takes objects of “Node” class as its data members. (\*myHead, \*myTail pointers, and \*getNewNode() function). “LinkedList” class contains following functions for this project:

4-1- add to start

4-2- Sort the Linked List

4-3- copy to portfolio list

This function copies account information from a text file to the linked list when the user wants to see current portfolio.

4-4- print the list

1. “Main\_Mahrad”

Main program which instantiates objects of “StockAccount” and “LinkedList” and uses their functions throughout the program.