Description of Functions used in Final Project

The program is designed in such a way that it simulates an account management system which manages a stock portfolio account and a bank account. The project includes five header files and five source files. Header files include Account_divyaprakash.h, BankAccount_divyaprakash.h, StockAccount_divyaprakash.h, StockNode_divyaprakash.h and CurrTime_divyaprakash.h. Source files include Account_divyaprakash.cpp, BankAccount_divyaprakash.cpp, StockAccount_divyaprakash.cpp, StockNode_divyaprakash.cpp, CurrTime_divyaprakash.cpp and Main_divyaprakash.cpp.

Account_divyaprakash.h and Account_divyaprakash.cpp:
These two files occupy the highest level in the hierarchy. There are four public members for StockAccount and BankAccount to be connected and to inherit. There is a virtual function printTrans() for further use. Apart from this, other functions are:
CashBalance(): to get cash balance
setCashBalance():to set cash balance
getCashBalance():to get cash balance

BankAccount_divyaprakash.h and BankAccount_divyaprakash.cpp:
These files deal with the background of Bank Account management. It also inherits functions from Account header file. It has the following functions:
viewBalance():to get bank account balance
deposit_Cash():to deposit cash
withdraw_cash():to withdraw cash
printTrans():to print bank account transition history

StockAccount_divyaprakash.h and StockAccount_divyaprakash.cpp:
These two files deal with the background of Stock Account Management. Its functions are as follows:
dispStockPrice(): to display a specific stock's price
void dispPortfolio(): to display current portfolio
void buyShares(): to buy shares
void sellShares(): to sell shares
void viewGraph(): to view portfolio value variation by graph from matlab
printTrans(): to redefine printTrans function to print stock history
sortStockList(): to sort by bubble method
savePortfolio(): to save portfolio in txt document
retrievePortfolio(): to retrieve portfolio from txt document
savePortfolioVal(): to save portfolio value and time in txt document
retrievePortVal(): to retrieve portfolio value from txt document

StockNode_divyaprakash.h :
In order to establish double linked list, this StockNode includes two pointers and some value.
There are several set functions for the node to be set, and several get functions to get value from this node.
swap(): To be used in sorting method to swap two nodes.
In order to allow the users to choose two different sorting methods to keep double linked list in order, the bridge pattern to implement this.
The class, sortStockList(), includes one StockAccount pointer and a function to decide which sorting method to use after buying/selling or before displaying.

Main_divyaprakash.cpp:
First layer:
1.Stock Portfolio Account
2.Bank Account
3.Exit

Second layer of 1. Stock Portfolio Account:
1. Display the price for a Stock Symbol
2. Display Current Portfolio
3. Buy Shares
4. Sell Shares
5. View a Graph for the Portfolio Value
6. View Transaction History
7. Return to the Previous Menu

Second layer of 2. Bank Account:
1. View Account Balance
2. Deposit Money
3. Withdraw Money
4. Print History
5. Return to Previous Menu

Text file
Generated file:
balfile.txt: To store bank account balance.
bank_transaction_history.txt: To store bank account transaction history.
portfolio.txt: To store portfolio data.
portfolioValue.txt: To store portfolio value history.
size.txt: To store the size of portfolio.
stock_transaction_history.txt: To store stock account transaction history.
Source file:
Result_1.txt:
Result_2.txt:

Data Structure