`ticker` Project

Your program must be tested with input files `companies.txt` and `stock_changes.dat`. File `companies.txt` contains the original data, possibly with a few *errors*. As file `companies.txt` is read, your program must check for the following three kinds of errors.

1. Error: price longer than 10 characters. The record will be skipped.
2. Error: price is larger than $1,000,000.00. The record will be skipped.
3. Error: ticker symbol longer than 5 characters. The record will be skipped.

As the error messages indicate, the record containing one of these three types of errors is *skipped*. For those records that pass the above checks, function `stock_create` creates a company structure for the stock and it is stored in the BST.

After all data in file `companies.txt` is checked and stored, stock trading (stock updates) begin. Stock updates are read from *standard input*. Stock updates are in test file `stock_changes.dat`. Redirect standard input from file `stock_changes.dat` so that the command line to invoke executable `ticker` looks as follows.

```
./ticker companies.txt <stock_changes.dat
```

Trades (updates) that attempt to adjust a stock below $0.01, must be checked for and an appropriate error message such as

```
Attempt adjust stock below $0.01.  Transaction will NOT be completed
```

must be displayed. As the message indicates, the transaction will not be completed.

Test files `companies.txt` and `stock_changes.dat` are located in the following directory.

```
jsantmyer/DSA_II/TestFiles
```

Sample output, based on these test files, is in file `ticker_output` which is also located in the same directory where the test input files are located, namely,

```
jsantmyer/DSA_II/TestFiles
```

During the update phase, when file `stock_changes.dat` is read from the standard input, after each trade your program may want to sleep for 1 second just to give the impression of stock trades arriving in real time. But this is not necessary and you would only want to do this after you are confident that your program is running correctly. In fact, during development it will slow you down because you need to run and test as frequently as possible to get immediate feedback to determine if your program is working correctly.