

CPP Assignment #4

Practice inheritance in OO design. Learn how to apply xUnit test in project development.

1. Design a sorted list inherited from list implied by Assignment #3. Provide sorting automatically when add a Data. Use quick-sort algorithm.

2. Install and test cxxunit by cmdline, do it under shell:

```
tar zxvf cpp4_xunit.tar.gz
cd bankaccount
make
./runner
make clean
make GUI=y
./runner
```

requirement:

A: read BankAccount class file and BankAccountTest.h file, learn how to write a TestSuite.

B: read to cxxtest-guide-3.10.1.pdf to learn cxxtest MACROs.

3. Build dereferee package used by pointer intrusion test and verify it.

```
cd dereferee/Dereferee
make
cd demo
make
cd ..
build/run-demo
```

copy build/gcc_bfd_platform.o to your list project for eclipse test.

4. Install cxxtest and dereferee package plugin in eclipse

start eclipse, and select **help->Software Update** (Figure-1)

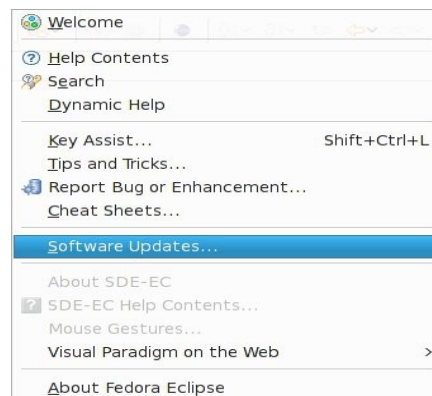


Figure-1: help->Software Updates..

click Add site (Figure-2), add “<http://web-cat.cs.vt.edu/eclipse/>” to **Location**.

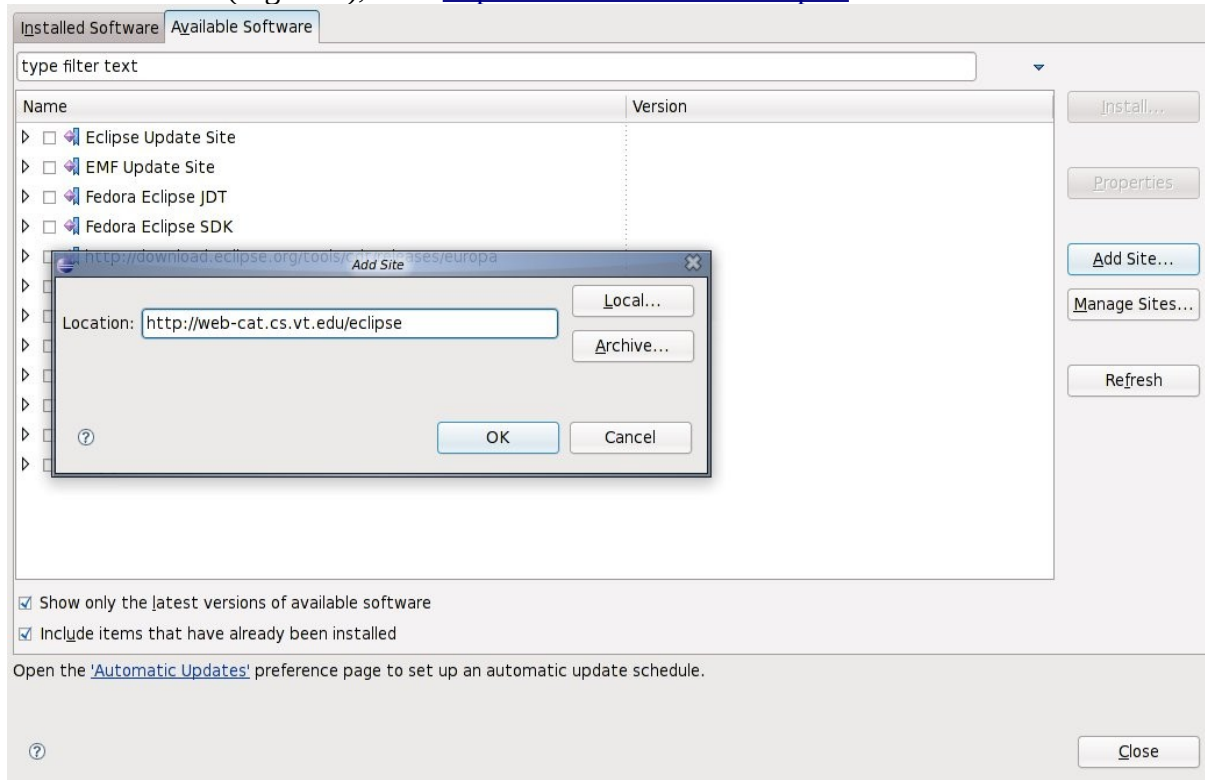


Figure-2: Add Site

Select Web-CAT Eclipse C++ Feature and click Install (Figure-3)

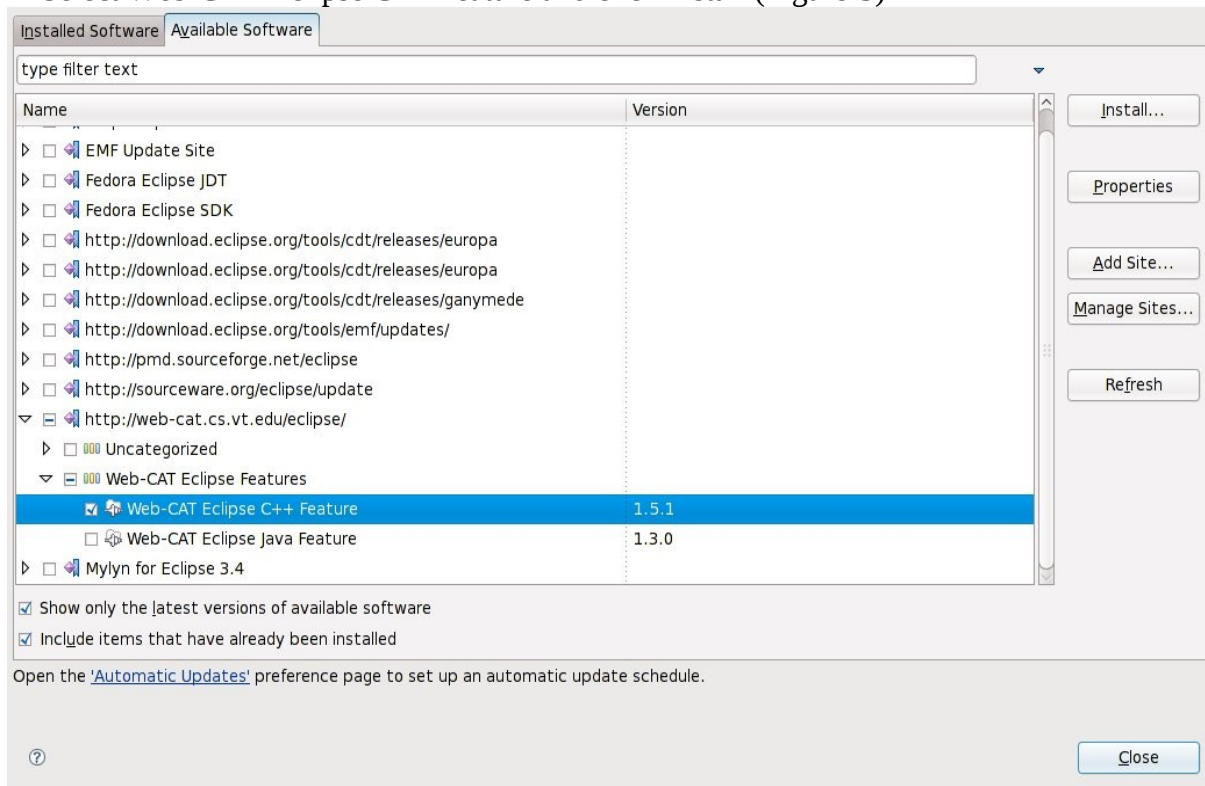


Figure-3: Install plugin

5. Read cxxtest_eclipse.pdf to learn and test your installation.

You should copy dereference/Dereference/build/gcc_bfd_platform.o to your bankaccount eclipse project directory

set linker option in eclipse bankaccount project properties (Figure-4,Figure-5)

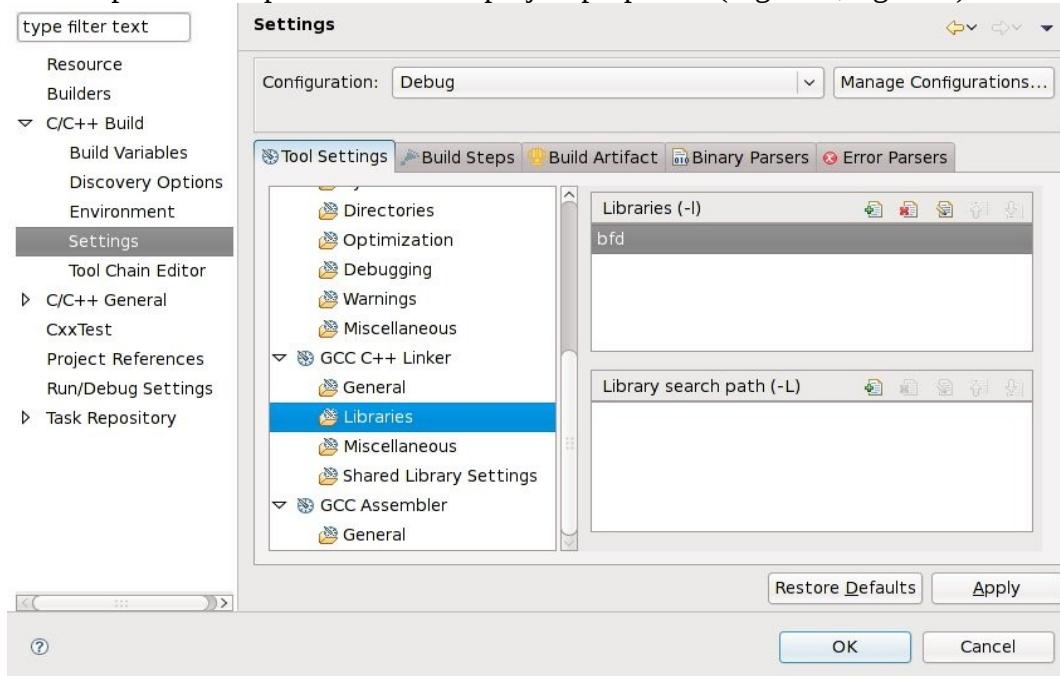


Figure-4: linker properties

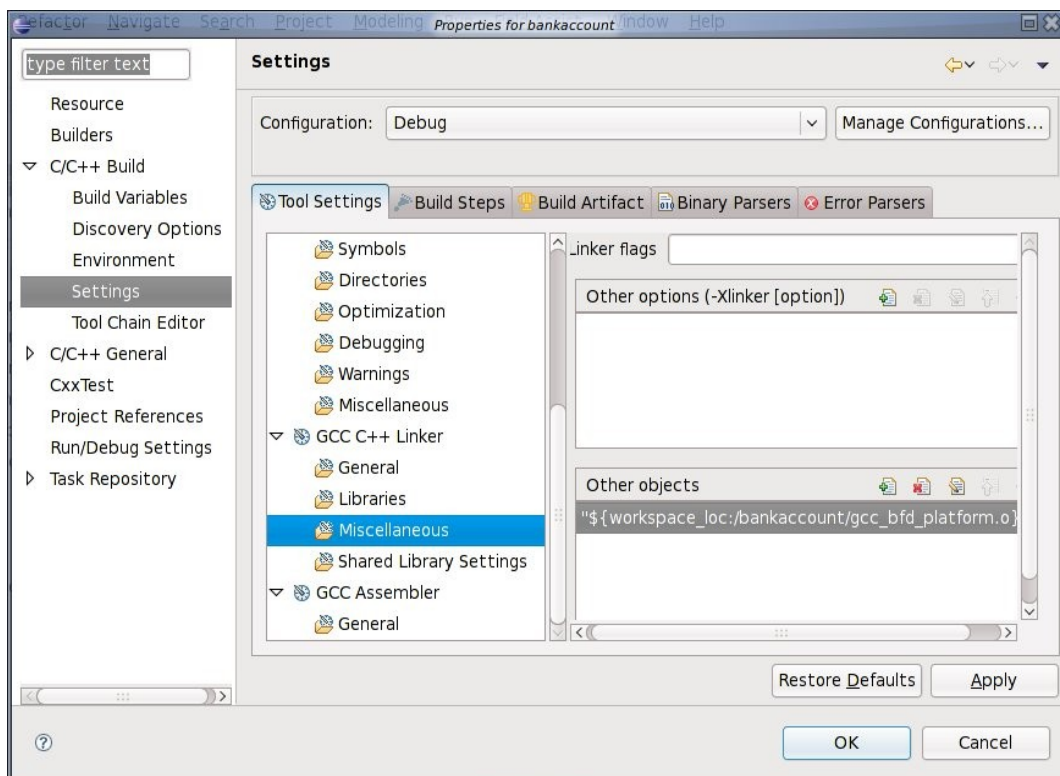


Figure-5: add gcc_bfd_platform.o in linker->Miscellaneous

if you use Fedora 10, set additional compile option (Figure-10)

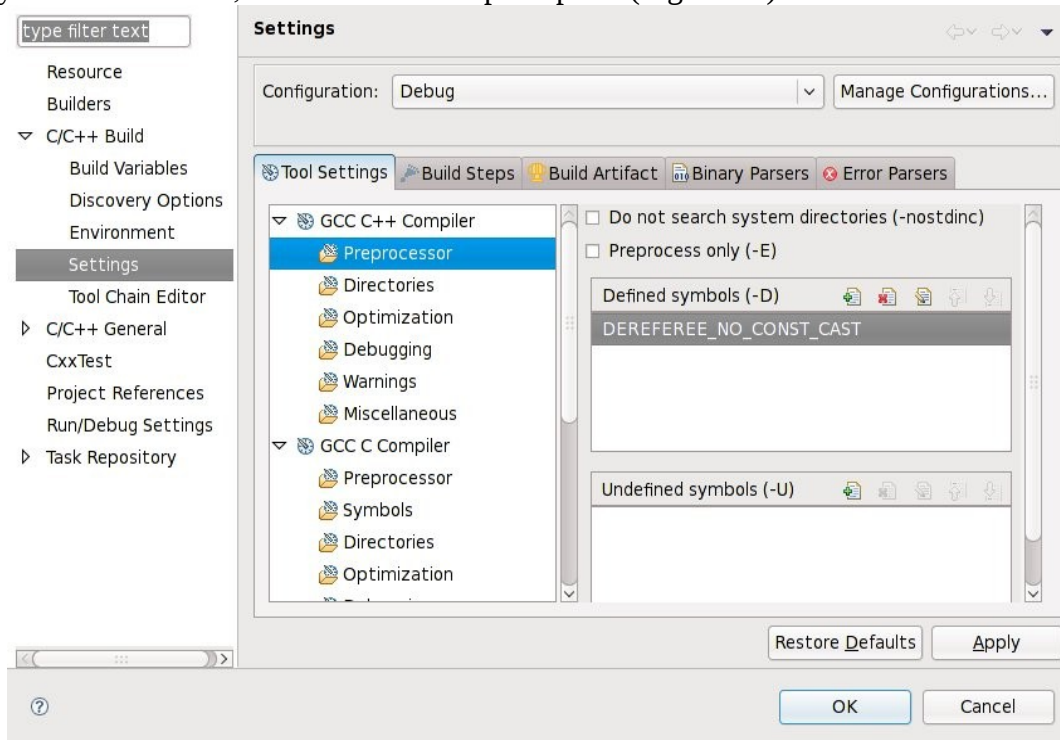


Figure-6: Option for fedora 10

NOTE: if you have compile error in **fedora 10** such as: “ ‘malloc’ was not declared in this scope”. Edit that source file, add “#include <cstdlib>” and #include <cstring> manually.

6. Write a xUnit test suite to test your List class and SortedList class. You should test every member function provided by these classes.
7. Talk with you group about your SortedList class design, and test methods.