Office Hours

Today is the last day of my normal office hours. You will need to set up an appointment if you would like to meet after today.
Assignment 10

• Implementation of Assignment 9
• Due Wednesday, December 4, 2013
Course Outline

- Object-Oriented Programming
  - Classes and inheritance
  - Dynamic method dispatch
  - Class diagrams for inheritance and composition
  - Abstract classes and protocols
  - Overriding versus overloading
  - Immutable versus mutable
  - Organized approaches to designing objects and classes
- Abstraction
  - The abstraction barrier
  - Client perspective versus implementor perspective
  - Black-box testing against specifications
  - Substitutability of implementations
  - Representation independence
  - Information hiding
  - Encapsulation
  - Tradeoffs between information hiding, encapsulation, and reuse
- Algorithmic thinking
  - Asymptotic notation
  - Worst case, average case, best case
  - Amortized efficiency
  - Divide-and-conquer algorithms
  - Precomputation
  - Caching
  - Memoization and/or dynamic programming
- Static types
  - Compile-time versus run-time
  - Interactions with reuse
  - Subtyping
  - Ad hoc (sum) polymorphism
  - Inclusion (product) polymorphism
  - Parametric polymorphism
- Basic Design Patterns
  - Factory Method
  - Singleton
  - Wrapper/Adapter
  - Composite
  - Iterator
  - Functional Visitor