

COP3330 Final Exam Study Guide
Spring 2009

- Dynamic Storage Allocation
 - Declare pointers of classes
 - Declare array of pointers of classes
 - The “this” pointer
 - -> operator and the . operator
 - & the address operator
 - The “new” operator
 - The “delete” operator
 - Overload the “=” operator
- Copy constructor
- C-Style Strings
 - With an actual size
 - Without a size but with initialization
- C++ string type v.s. C-Style strings
 - Assignment operator =
 - cin >>
 - getline() as a class member function on C++ style strings
- inheritance
 - General description
 - How one class inherits another
 - Protection levels
 - Base class
 - Derived class
 - How constructors work in or for:
 - Base class
 - Derived class
- Virtual Functions
 - What is a “Virtual Function”
 - Pure virtual function
 - Advantages/disadvantages
 - How to declare
 - How to use
- Templates
 - Templates will also include a discussion of link list as in the project
 - Define templates
 - How to use/invoke templates
 - Swap function example
 - Only use class templates
- Recursion
 - Base Case/General theory on recursion
 - Advantages/Disadvantages
 - Recursion v.s. iterative solution
 - Blob Finder example
 - Factorial example
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- Exception

- What are exceptions
- Try
- Throw
- Catch