

Topics List for Exam #2:

- UNIX commands (because so many people got them wrong)
 - g++ (including how to compile implementation files by themselves, and how to compile a main program that uses a separately compiled class)
 - mkdir
 - cd
 - mv
 - cp
- Exception Handling
 - How to write a function that uses “throw” to signal an exception using a string
 - How to write client code using that function and waiting for an exception (using “try” and “catch”)
- Command Line Arguments
 - How to write programs that take command line arguments
 - How to write programs that take command line arguments are reinterpret all or some of the arguments as integers or doubles (using atoi() and atof())
- Classes
 - How to write a simple class
 - public vs. private and what they do
 - accessor (getter) functions and what they are used for
 - mutator (setter) functions and what they are used for
 - static member variables vs non static member variables and what they do.
 - simple functions that do some basic calculations
 - What functions come for free if you don’t write your own
 - Default constructor and what it does
 - Assignment operator and what it does
 - Copy constructor and what it does.

- Constructors
 - To write your own default constructor
 - To write your own constructor that takes in as many arguments as there are member variables.
 - How function overloading works, and what is legal and what is illegal (same parameters but different return type is illegal, different parameter types and/or different number of parameters is legal)
- Operator Overloading
 - How to overload the ++ and -- operators (both prefix and postfix versions)
 - Arity of operators in C++:
 - Unary operators (e.g. prefix ++, prefix --, unary -)
 - Binary operators (e.g. ==, !=, >, +, -, /, etc.)