Midterm Review

CS3210:0001 Fall 2016

Chapter 2:

- What does the following preprocessor directive do?

  #include <iostream>

- What does the following statement do?

  using namespace std;

Chapter 3:

- Overflow, underflow, widening, and narrowing
- Suppose x1 and x2 are two type double variables that you want to add as integers and assign to an integer variable.Construct a C++ statement for doing so.What if you want to add them as type double and then convert to int?

Chapter 4:

- Creating and using arrays
  a. TypeName arrayName[arraySize];
  b. Subscripts start at 0
- Creating and using structures
  a. Initialize an array of a user defined structure using initializer list
  b. See listing 4.1.3 arrstruct.cpp
- Creating and using pointers
  a. Int * pn = new int;
- Creating dynamic arrays
  a. New typeName[]
  b. Delete[]
- Creating dynamic structures
- Automatic, static, and dynamic storage

Chapter 5 & 6

- Loops: while, for, do-while
- Branching: if, else if, switch, break and continue

Chapter 7 & 8

- Function arguments: pass by value, pass by reference, arrays, and pointers

- Function overloading

Chapter 9

- Scope
- Storage types: automatic, static, and dynamic

Chapter 10:

- Constructors and Destructors
- Private versus public
- Initialize an array of objects(hint: same as structs, but with constructor)

Chapter 11:

- Operator overloading
- “friend” functions

HIGHLY recommended programming exercises:

1. Create a pointer that points to a single element of an array. Dereference that pointer to call a function that uses pass by reference to update its value.
2. Write a function that copies an array, and returns a pointer to a **new** array. Make sure the parameters are constant.
3. Define an implement a “cube” class. Make sure it has a static member variable. Write at least one member function that returns a value based on the cubes length. Use a header for the declaration/prototype, and a cpp file for the definition (cube.h and cube.cpp)