Lab 6

Course: CSE 165
Section: 02L & 03L
Due: Sunday, October 31, at 11:59 pm

All the exercises below are selected from the textbook: Thinking in C++ (volume 1).

1. [Exercise 1 on Page 610] Create a class Counted that contains an int id and a static int count. The default constructor should begin: Counted() : id(count++). It should also print its id and that it's being created. The destructor should print that it's being destroyed and its id. Test your class. [15 pts]

2. [Exercise 4 on Page 610] Create a vector< Counted*> and fill it with pointers to new Counted objects (from Exercise 1). Move through the vector and print the Counted objects, then move through again and delete each one. [10 pts]

3. [Exercise 5 on Page 610] Repeat Exercise 4, but add a member function f() to Counted that prints a message. Move through the vector and call f() for each object. [5 pts]

4. [Exercise 6 on Page 610] Repeat Exercise 5 using a PStash. [15 pts]

5. [Exercise 11 on Page 611] Create a class with an overloaded operator new and delete, both the single-object versions and the array versions. Test both versions. [25 pts]

6. [Exercise 14 on Page 611] Create a class with a placement new with a second argument of type string. The class should contain a static vector<string>where the second new argument is stored. The placement new should allocate storage as normal. In main(), make calls to your placement new with string arguments that describe the calls (you may want to use the preprocessor's __FILE__ and __LINE__ macros). [30 pts]

Requirements:

* Usage of spaces, blank lines, indention, and comments for readability.

* Descriptive names of variables, functions, structs, classes, and objects (if any).

* Appropriate usage of structs, classes, and objects (if any).

Penalties:

* 10-point deduction per day late until zero.

* Zero if you have possession of a copy of online solutions or work done by someone else.