**LAB 5**

**Problem 1**

The test.cpp file contains a class called Counted which has a private id and count variable and public constructor and destructor. The constructor will print out the creation and id, and the destructor will print out the destruction and id. The main will create the two objects and you will see the creation and destruction of each object.

Compile: g++ test.cpp -o test

Run: ./test

NO INPUT

**Problem 2**

Using the same Counted class from Problem 1, we can create a vector and use the ID’s to fill it. In the test.cpp file there is an ostream operator which needs to be friended in the Counted class, this allows the cout << operation to print the id pointers. In the main we create a vector, add each counted object into it, then print out the id’s of each object, then delete vector.

Compile: g++ test.cpp -o test

Run: ./test

NO INPUT

**Problem 3**

Using the AddingVirutals.cpp from the textbook, we need to change it to where the member functions of Pet are pure virtual. In the test.cpp file, to do this, we can do ‘virtual datatype func() = 0;’, this is applied to name() and speak(). I then added a virtual destructor for Pet. Dog function was changed as necessary and added a destructor. The main will create a dog object and then using it to point to speak() will call the Dog function to say Bark. Then it’s deleted.

Compile: g++ test.cpp -o test

Run: ./test

NO INPUT