**APCS Spring, 2002**

**Assignment 2:  Vectors and Classes**

**Files:** [**aquafish.h**](http://docs.google.com/aquafish.h)**,** [**aquafish.cpp**](http://docs.google.com/aquafish.cpp)**,** [**randomgen.h**](http://docs.google.com/randomgen.h)**,** [**randomgen.cpp**](http://docs.google.com/randomgen.cpp)**,** [**aquamain.cpp**](http://docs.google.com/aquamain.cpp)**,** [**histogr.h**](http://docs.google.com/histogr.h), [**histogr.cpp**](http://docs.google.com/histogr.cpp)

The purpose of this lab is to review using apvectors and modifying classes.  This lab uses the "Marine Biology Case Study" from the Advanced Placement Computer Science program.

**Preparation**:

* 1. Read handout from the Marine Biology Case Study.

**Tasks:**

* 1. Modify the class AquaFish as follows
     1. add a private data member myPosCount which is an apvector of integers
     2. add a public member function PosCount which returns that apvector of integers
     3. modify the AquaFish constructor so that myPosCount is properly initialized (include counting the inital position here)
     4. modify the member function Swim so that it increments myPosCount for the position entered.
  2. Write the function Histogram in the file histogr.cpp which implements the function Histogram specified in histogr.h
     1. this function should display  histogram of the position counts using the DrawBlock function.
  3. Modify the main function in the file aquamain so that it will correctly display a histogram of the position counts for the fish.
     1. declare an object of class Histo with the number of bars equal the tank size and some maximum bar length
     2. call the member function Histogram appropriately

**Hand in:**

* 1. Copies of your finished aquafish.h, aquafish.cpp, histogr.cpp, and aquafish.main

You can hand in your completed lab by uploading it to your folder(eg.WislerB) in the Office97<Programming<APCS folder.  You need not print a hardcopy.