

31251 Data Structures and Algorithms

Workshop 4

Preparation

Go through learning module 4, studying the material contains in each of its sub-modules. Do each of the quizzes in the sub-modules and the final module quiz. Make sure you understand the questions and the answers.

Go through the problems below and prepare solutions to be brought to the workshop.

Problem 1

A function found with the STL vector is `at`. It has the following prototype

```
dataType& at (int index)
const dataType& at (int index) const
```

This function will return a reference to the object at location `index` in the vector array. Add these to the vector code developed in the module.

Problem 2

The zoo class used in workshop 3 had an array of stock. Change this so it uses an STL vector of stock.

Add the following method to the zoo class.

```
vector<stock> * getPenStock(const string &pen) const
```

This will create a vector of stock found in a particular pen and return the address of that vector.

To see how this works I've created an updated version of testzoo called testzoovec. It will use `getPenStock` to print the animals in a particular pen.

You will use it thusly

```
\home\glingard\testzoovec stockfile pen_number
```

Where you supply it with a stock file and a pen whose stock you want to list.

Problem 3

Devise a set of tests to thoroughly test the program.

Note: Please read the Functionality menu item on SUBNET for how to do this.