# Lab – Array List

## Lab Description:

We are going to learn how to use the ArrayList class using real data. I have stubbed out an application which loads a history of daily gold prices from a CSV file. The application generates a graph and specific metrics regarding the prices of gold.

Your task is to complete the lab steps outlined below to complete the application. Each of the lab steps entails working with an ArrayList.

Lab Steps:

We will perform steps 1 and 3 together as a class. Perform steps 4 and up by modifying code in the GoldReports.java class.

1. Download the project from Blackboard and import it into Eclipse
2. Confirm the project is loaded correctly by running it.
   1. The GUI should launch, and a default graph should generate.
3. Examine how the project is structured. This is a simple example of separating code into layers to make it more manageable and extensible. All of your code work will be in the **GoldReports.java** class.
4. Modify the findYearlyGoldPrices() method to return an ArrayList of yearly gold prices.
   1. The application takes care of loading an ArrayList called dailyGoldList with daily gold values.
   2. You need to iterate the dailyGoldList ArrayList and add only the last day of the year (day = 365) to your yearly ArrayList
   3. Additionally, include the most recent gold price in your yearly ArrayList
   4. Return your yearly ArrayList from the method
   5. Run the application and make sure your graph now load the yearly prices.
5. Modify the getNumberOfPrices() method to return the number of gold prices in the dailyGoldList ArrayList
   1. Run the application and make sure the GUI’s main screen now reports the correct number of gold prices.
6. Modify the getLatestPrice() method to return the Gold object with the maximum date in dailyGoldList.
   1. Run the application and make sure the GUI’s main screen now reports the most recent gold price and date.
7. Modify the getMaxPrice() method to return the Gold object with the maximum price in dailyGoldList.
   1. Run the application and make sure the GUI’s main screen now reports the max gold price and date.
8. This application contains many aspects of Java programming which will be new to you. Find a particular piece of code which you find interesting, and discuss it briefly. Include your comments with this lab submission.
9. Submit only your GoldReports.java class and your comments from question 8 to this Blackboard assignment.