**CS 4322 – Coding Assignment 1**

You can work individually or in a group of two for this assignment.

**Problem 1**

Scenario: A subject receives notifications of news reports (short text statements). It is desired to have the subject notify observers every time *n* new notifications have come in, where *n* is a parameter that can be set (and changed). Observers should be able to pull the latest notifications.

**Requirements:**

1. Model this scenario with UML
2. Write the code

**Deliverables** – Put the items above in a folder named: *Problem1*

**Problem 2**

Scenario: A corporation owns a number of stores which each submit data files (assume text files) containing information about sales for the week. The data is presented in a number of different formats, two of which are shown below.

Format 1: sales on a per-item basis:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1.99 12.22 8.26 | # | 7.99 18.29 43.93 18.62 | # | … |
| Items in Order 1 | Delimiter | Items in Order 2 | Delimiter | … |

Format 2: sales on a per-order basis:

|  |  |  |
| --- | --- | --- |
| 57.23 | 36.72 | … |
| Total Order 1 | Total Order 2 | … |

The corporation would like to compute statistics about weekly orders: total order price, average order price, standard deviation, minimum, median, and maximum.

The corporation has a text file in the following format:

|  |  |  |
| --- | --- | --- |
| Store Location | Format | File Name |
| Valdosta | 2 | Val.txt |
| Tifton | 1 | Tifton.txt |
| Douglass | 1 | Douglass.txt |
| Waycross | 2 | Waycross.txt |
| … | … | … |

Design a component that accepts this text file and computes the statistics for each store in advance. The component should allow clients to request the statistics for a particular store. For example, something like: corporation.getStats(“Valdosta”).

You should use the Strategy pattern to model the computation of statistics for each type of format. Note that there is a lot of commonality in the computations. In fact, the computations are all the same, however it is the parsing of the data that differs.

**Requirements:**

1. Model this scenario with UML
2. Write the code

**Deliverables** – Put the items above in a folder named: *Problem1*

**Final Deliverables**

Zip the two folders described above into a file named: *ca1-lastNames.zip* and submit on Blazeview.