**CS 4322 – Coding Assignment 4**

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

**Problem**

Design an abstract generic custom observable class (*CustomObservable*) that:

1. Allows observers to be added and removed.
2. Has a *notify* method that (a) only passes an instance of the generic type to observers and does not pass a reference to observable, (b) cannot be called by client code, only subclasses.
3. Do one of these two:
4. (-15 points) Provides a parameter that can be specified in the constructor or changed at any time that indicates which observers should be notified when *notify* is called: all observers in the order they were added, or every other observer, or every third, *etc.* The default should be every observer.
5. Provides a mechanism using marker interfaces to implement Priority 1, 2, and 3 observers so that when notify is called so that only Priority 1 observers are notified, only Priority 1 or 2 are notified, or all three levels are notified. Thus, *CustomObservable* needs a mechanism where this can be set.

Design a generic custom observer interface (*CustomObserver*) to support the requirements above.

**Requirements:**

1. Provide a write-up explaining:
2. Your design which includes a class diagram(s).
3. What works and what doesn’t
4. Time Log(s)
5. Write the code including a tester

**Final Deliverables**

Zip (or Rar) the items described above into a file named: *ca4\_lastName1\_lastName2.zip* and submit on Blazeview. Please only submit once, under one person’s account if working in a group.

**Time Log**

If working in a group, ONLY submit a single timelog if you worked face-to-face for the entire assignment; Otherwise submit one for each member (copy table below).

* **Delete empty rows, add if needed.**
* **Put the total time at bottom.**

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| **Time (hrs)** | **Task** |
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**Grading Criteria**

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| **Worth** | **Criteria** | **Description** |
| 10 | 1 | UML is correct |
| 15 | 2 | CustomObservable & Observer are generic |
| 5 | 3 | *notify* method passes an instance of the generic type to observers and does not pass a reference to observable |
| 10 | 4 | Can skip observers when notifying |
| 5 | 5 | Clients can't access notify |
| 25 | 6 | Code is correct and runs |
| 15 | 7 | Meaningful test cases |
| 15 | 8 | Enhancements |