

# Design Patterns Assignment (50%)

**Deliver by:      Tuesday 25<sup>th</sup> April 2023 before 12 noon.**

## **Assignment**

Develop a Java application that incorporates at least **FOUR** design patterns. You must include at least **one creational, one structural and one behavioural pattern.**

This system should have a comprehensive GUI front-end.

Write a report that describes how this application works and in particular how the **four** design patterns were applied to this problem and defend why you chose one design pattern over another.

Illustrate the use of **each** of the design patterns used with the aid of **UML** diagrams, **carefully** detailing the participants.

The report should contain the following sections:

- Application Overview,
- Functional Requirements,
- User Requirements/User Interface,
- Design Pattern Explanation,
- UML diagrams.
- Screen shots of Application on execution

## **Note**

Please include all above sections in a professional soft copy report

## **Deliverables:**

- 1) Create a folder in the format <NameStudentNumber >.
- 2) Copy the report and source code into the folder.
- 3) On or before the due date, upload the zipped folder into Moodle upload link provided. **Please use.zip format and do not include .rar files.**
- 4) Students **must** attend to demo their work during lab time on Friday 28<sup>th</sup> April in order to secure a grade. NOTE: Your work **MUST** be demonstrated or you will not be assigned a grade.

**MARKS WILL BE LOST FOR LATE DELIVERY OF ASSIGNMENT – 10% FOR EACH DAY LATE.**

## **Bachelor of Science in Computing in Information Technology**

**NO ASSIGNMENT WILL BE ACCEPTED AFTER THE DUE DATE UNLESS A VALID REASON IS SUBMITTED.**

### ***Academic Honesty***

*You may help each other freely to complete labs, as the purpose of the labs is to increase your understanding. This, however, this does not mean that someone else can do your lab work for you, or that you can do someone else's work for them. Any work that you submit for continuous assessment or assignments must contain a significant contribution by you. Any help you receive from someone **must be acknowledged** in the work submitted. Failure to acknowledge the source of a significant idea or approach is considered plagiarism and not allowed.*

***Academic dishonesty will be dealt with severely.***

***At a minimum, you will receive a mark of zero for the assignment.***