# ISLAMIC UNIVERSITY OF TECHNOLOGY

**SWE 4302**

# LAB 5 GROUP A

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# Contents

Today's will related to the theory content. You will try to implement and apply the open/close principle and factory method. This lab's objectives,

1. Applying Liskov Substitution Principle

2. Applying Single Responsibility Principle

# 1  TASKS

# Shape Ordered Printer

A team of developers is tasked with creating a simple shape drawing application. The application needs to handle different types of shapes, calculate their areas, and draw them on a canvas in a specific order. Here's how the project unfolds:

- **Shape**

    - There will be different types of shapes: square, rectangle, and circle.

    - Each shape will have a certain starting coordinate of x and y.

    - Each shape will have its own implementation of area calculation.

- **Order Printer**
  Takes a list of different **Shapes** and orders them according to the criteria given below,

    - By area (ascending order).

    - If areas are equal, by x-position (left to right).

    - If x-positions are also equal, by y-position (top to bottom).

*Write at least 10 test cases for this application. You need to submit the .java files and github link in the google classroom.*