

# CSE 112 : Object Oriented Programming Lab

## Lab - 6

Intake 52  
**Section - 4**

March 11, 2024

## Lab Tasks

### Task 1

- Develop a class "Product" with private attributes for name, price, and quantity.
- Implement constructors for default and parameterized cases.
- Include getter functions for product details.
- Create a method to calculate the total cost of products.
- In the main function, create "Product" objects, set their details, calculate the total cost, and display the result.

### Task 2

- Create a class named "Point" with private data members for x and y coordinates.
- Implement a constructor to initialize these coordinates.
- Define a friend function named "calculateDistance" that takes two "Point" objects as parameters.
- The friend function calculates the distance between the two points using the formula:  
$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}.$$
- In the main function:
  - Create two "Point" objects.
  - Set their coordinates using the constructor.
  - Use the friend function "calculateDistance" to compute the distance between the points.
  - Display the calculated distance.