Due: April 5, 8:30 am

# Of members: 1 - 3

**Must have features:**

1. User authentication: Users should be able to create an account and log in to the application.
2. Product catalog: The application should have a catalog of available products, with information on each product, including name, description, price, and availability.
3. Shopping cart: Users should be able to add items to their shopping cart, view their cart, and update or remove items.
4. Checkout: The application should allow users to proceed to checkout when they have finished adding items to their cart. Checkout should include the option to choose a delivery address and payment method.
5. Order history: Users should be able to view their order history, including previous orders and current orders that are being processed.
6. Search functionality: Users should be able to search for specific products by name, category, or other criteria.
7. Discounts and promotions: The application should allow for discounts and promotions to be applied to products, either through coupon codes or automatic promotions.
8. inventory: The application should be able to ensure that products are accurately reflected as available or out of stock.

Must implement:

1. Runnable class (w/ static void main)
2. Class(es) to represent an object (e.g. public class Product)
3. ArrayList
4. File handling – reading and writing.
5. Search and Sort algorithm
   1. Do not use the existing methods (e.g. Array.sort is not allowed)
6. Method overloading
7. Data hiding (encapsulation)
8. Appropriate Constructor(s)
9. Appropriate setters and getters
10. loops

Requirements and grading Criteria:

Working features and program correctness 16 marks

Proper coding practice (e.g. indentation, descriptive variable names, …) 04 marks

Video 05 marks

* Identify yourself.
* Provide proof that you have implemented the required features and working.
* Explain your programming approach or how you solved each requirement.