

Quiz 01

Inventory Management System

Composition

Product Class

This class contains the attributes for a product, such as ID, name, and quantity.

Make a class Inventory that consists of an array of products, it should include an addProduct() method that adds a product to the array (You can hard code the size of array and use static array for ease). In main create object of Inventory and add products to its array data member. Do not violate the rules of composition.

Polymorphism

The system should be able to handle different types of products, such as electronics and apparel.

Product class: This is the base class that contains common attributes for all products, such as ID, name, and quantity. It has a virtual display() method that displays the product's details.

Electronics class: This class inherits from the Product class and adds an additional attribute called model_number. It overrides the display() method to include the model_number.

Apparel class: This class inherits from the Product class and adds an additional attribute called size. It overrides the display() method to include the size.

Note: Your program must achieve polymorphism in a way that in main create an array of products, add different products in it of both types(electronics, and apparel). Pass the entire array to a function named displayAll(), that will display each product by printing its attributes.

In the output, your program should display the inventory, and also the destructors should be called of each class.