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Large Scale Programming – Assignment #2

1. **Understanding Object-Oriented Principles**
2. **Class** – In Object-Oriented Programming, a Class is a blueprint or prototype that defines the attributes and behaviors common to the objects of the class.
3. **Object** – In Object-Oriented Programming, an Object is an instance of a class.
4. **Encapsulation** – In Object-Oriented Programming, Encapsulation refers to the bundling of data, along with the methods that operate on the data, into a single unit.
5. **Inheritance** – In Object-Oriented Programming, Inheritance refers to when a class derives from another class.
6. **Polymorphism** – In Object-Oriented Programming, Polymorphism is a core concept which describes situations in which something occurs in several different forms. It describes the concept that you can access objects of different types through the same interface. Each type can provide its own independent implementation of this interface.
7. **Identifying Business Classes, Attributes and Methods**

Class: **Customer**

Attributes:

Customer ID,

License Number,

Name,

Address,

Telephone Number

Child Class: Company Customers

Attributes:

Contact Person,

Discount

Behaviors:

Create New Customer Object

Add/Update specific Attribute of a specific Customer Object

Get Attribute of a specific Customer Object

Class: **Product**

Attributes:

Name,

Description,

List Price,

Warranty Period,

Supplier,

Catalog URL,

Weight Classification,

Quantity,

Child Class: Availability

Attributes:

Child Class: Warehouse Location

Attributes:

Stock Quantity

Child Class: Category

Attributes:

Additional Categories or a Leaf Category

Behaviors:

Create New Product Object

Add/Update specific Attribute of a specific Product Object

Get Attribute of a specific Product Object

Class: **Order**

Attributes:

Tracking Number,

INHERIT Customer,

Order Date,

Shipping Mode,

Status,

Number of Items,

Child Class: Item

Attributes:

INHERIT Product

Price

Quantity

Child Class: Category

Attributes:

Additional Categories or a Leaf Category

Behaviors:

Create New Order Object

Add/Update specific Attribute of a specific Order Object

Get Attribute of a specific Order Object