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ENGINEERING - MANAGEMENT - LAW - SCIENCES - HUMANITIES - EDUCATION
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Object Oriented Analysis and Design

Class Diagram Notations

Simple class diagram with attributes and operations

Relationships in Class Diagrams

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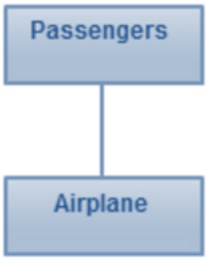
- Association
- Directed Association
- Multiplicity
- Aggregation
- Composition
- Inheritance/Generalization
- Realization

Association



Association

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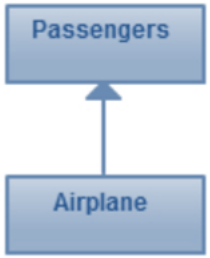
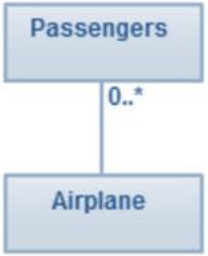
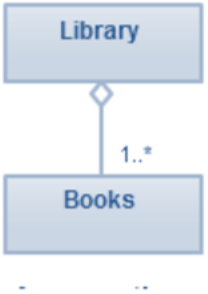
Directed Association



Multiplicity



Aggregation



Composition

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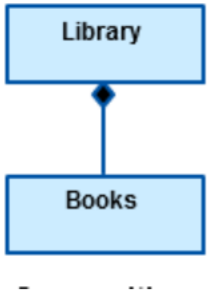
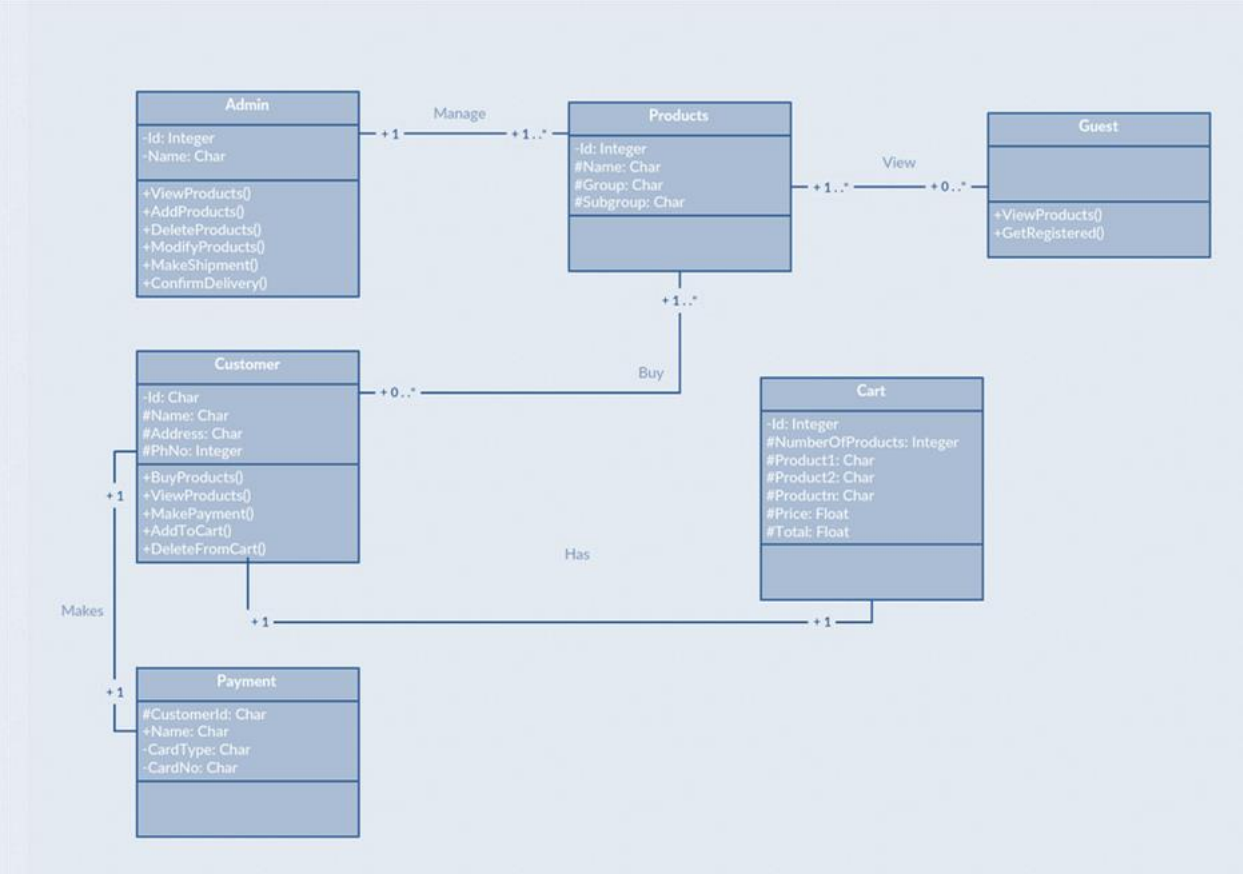
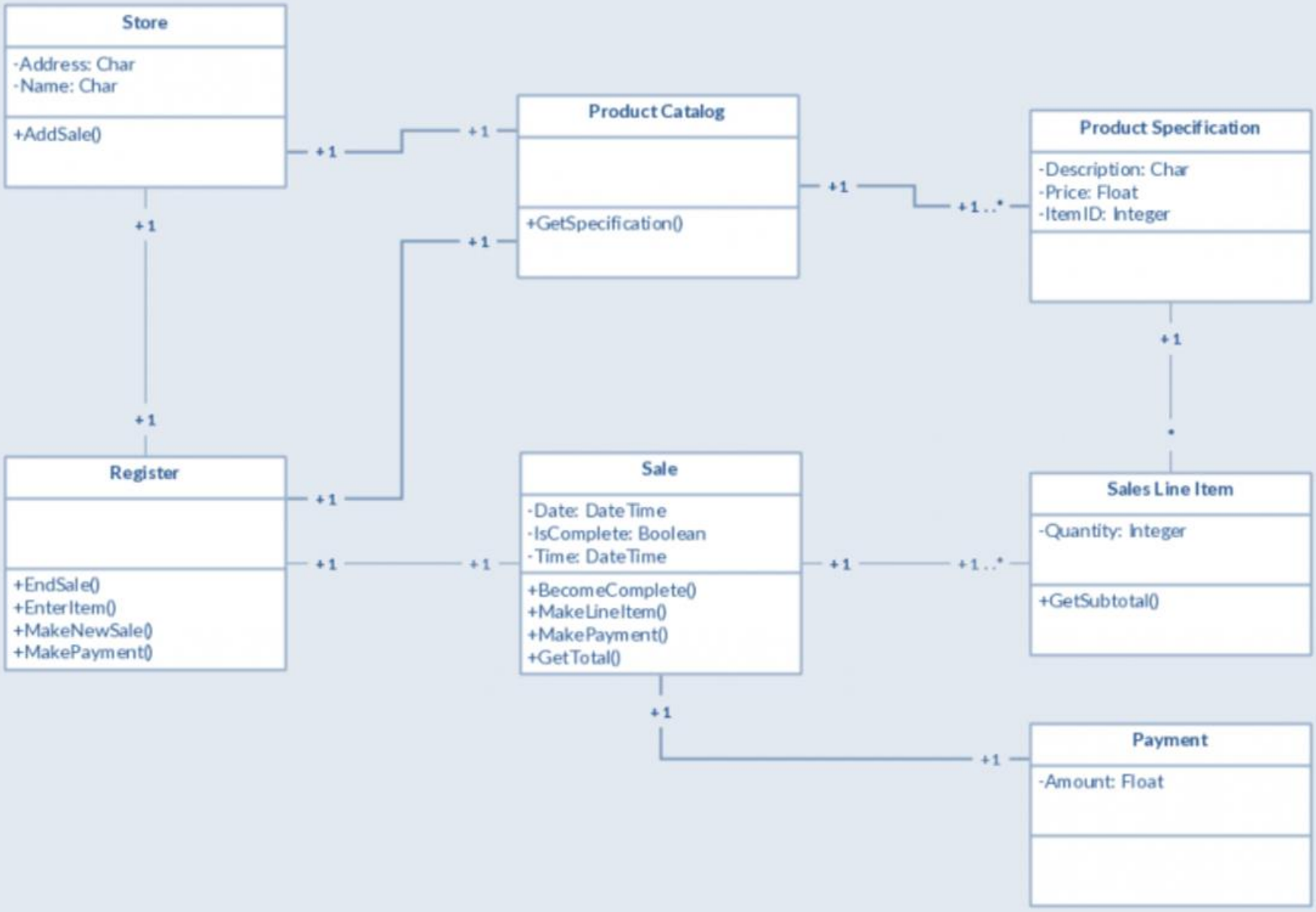


Inheritance / Generalization


Admin
-Id: Integer
-Name: Char
+ViewProducts()
+AddProducts()
+DeleteProducts()
+ModifyProducts()
+MakeShipment()
+ConfirmDelivery()
Manage
+1
+1..*
Products
-Id: Integer
#Name: Char
#Group: Char
#Subgroup: Char
+1..*
View
+0..*
Guest
+ViewProducts()
+GetRegistered()
+1..*
Buy
+0..*
Customer
-Id: Char
#Name: Char
#Address: Char
#PhNo: Integer
+BuyProducts()
+ViewProducts()
+MakePayment()
+AddToCart()
+DeleteFromCart()
Cart
-Id: Integer
#NumberOfProducts: Integer
#Product1: Char
#Product2: Char
#Productn: Char
#Price: Float
#Total: Float
Has
+1
+1
+1
Makes
+1
Payment
#CustomerId: Char
+Name: Char
-CardType: Char
-CardNo: Char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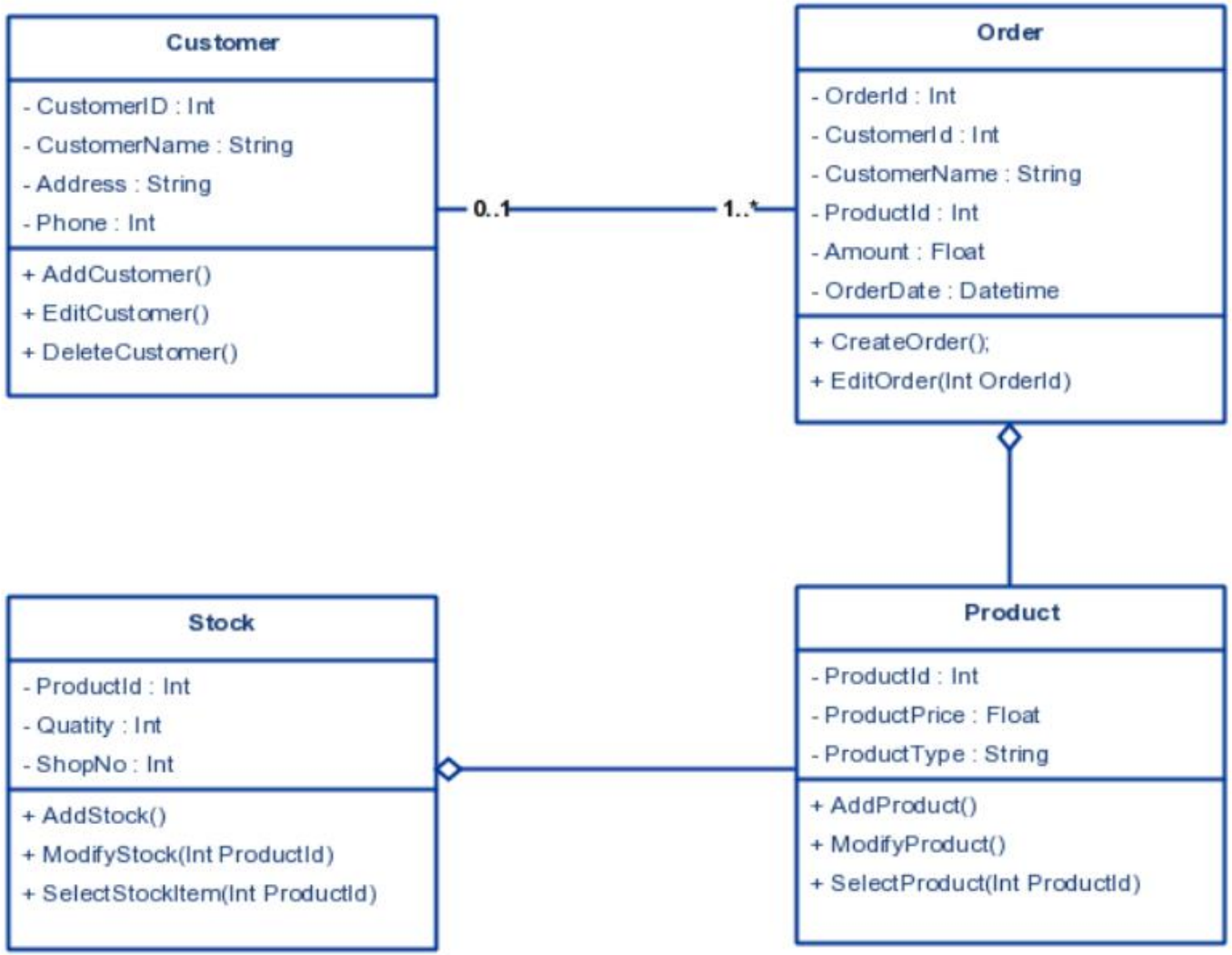
-Name: Char
+AddSale()
Product Catalog
+GetSpecification()
Product Specification
-Description: Char
-Price: Float
-ItemID: Integer
Register
+EndSale()
+EnterItem()
+MakeNewSale()
+MakePayment()
Sale
-Date: DateTime
-IsComplete: Boolean
-Time: DateTime
+BecomeComplete()
+MakeLineItem()
+MakePayment()
+GetTotal()
Sales Line Item
-Quantity: Integer
+GetSubtotal()
Payment
-Amount: Float
+1
+1..*
*

Class Diagram for Order Processing System



References:

• Michael R Blaha, James Rumbaugh, Object_oriented Modeling and Design with UML, Second Edition, Pearson Education, 2013

• Ali Bahrami. Object Oriented System Development, McGraw-Hill Higher Education, 2015