Separating Responsibilities

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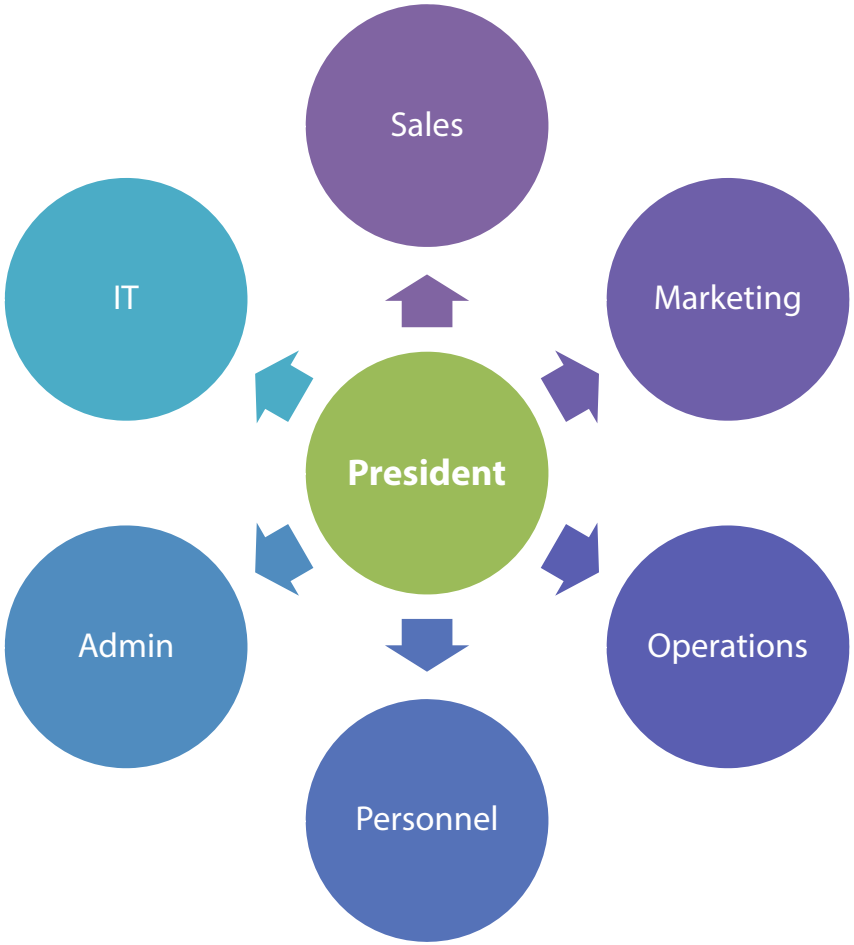
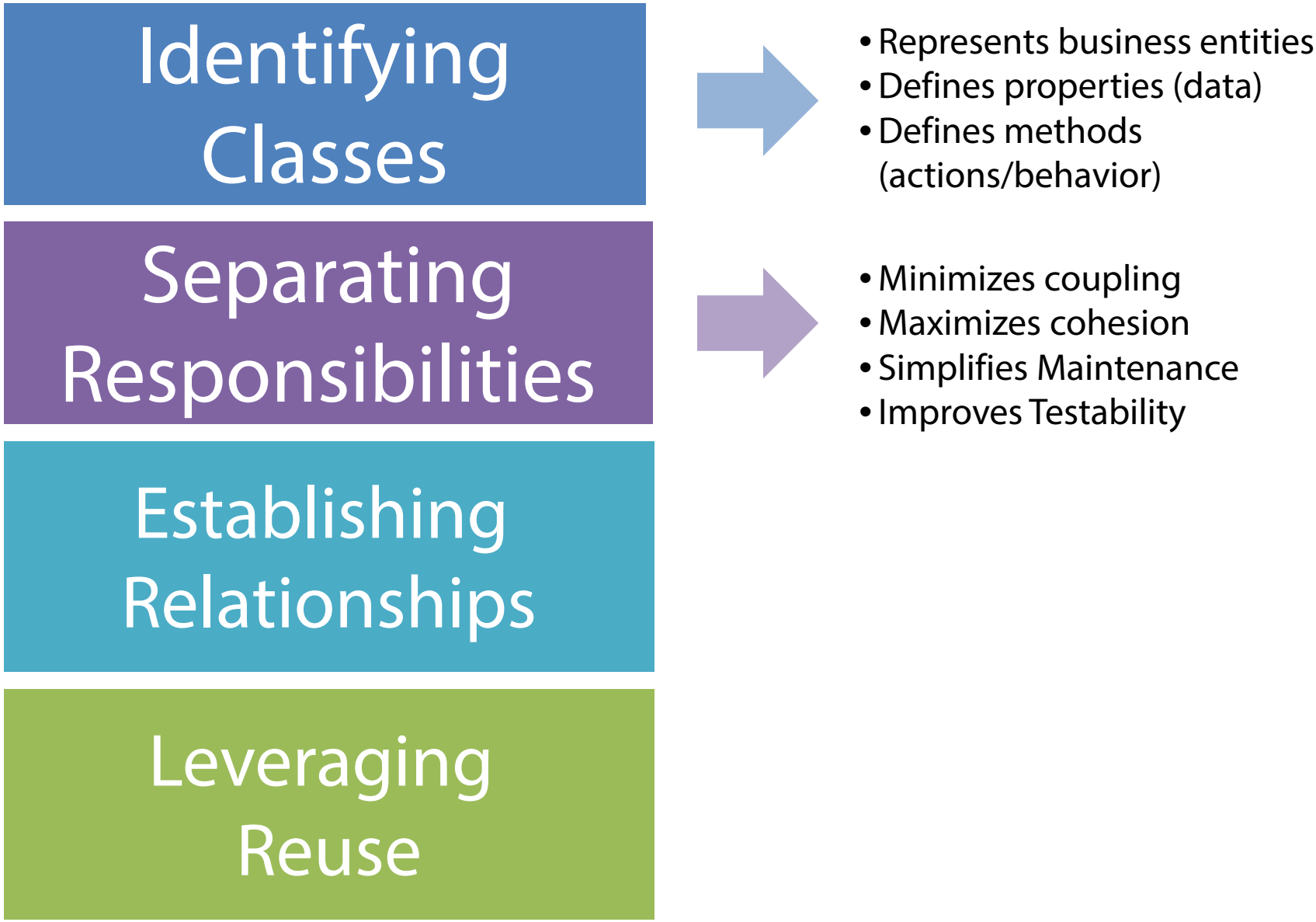

Sales
IT
Marketing
President
Admin
Operations
Personnel

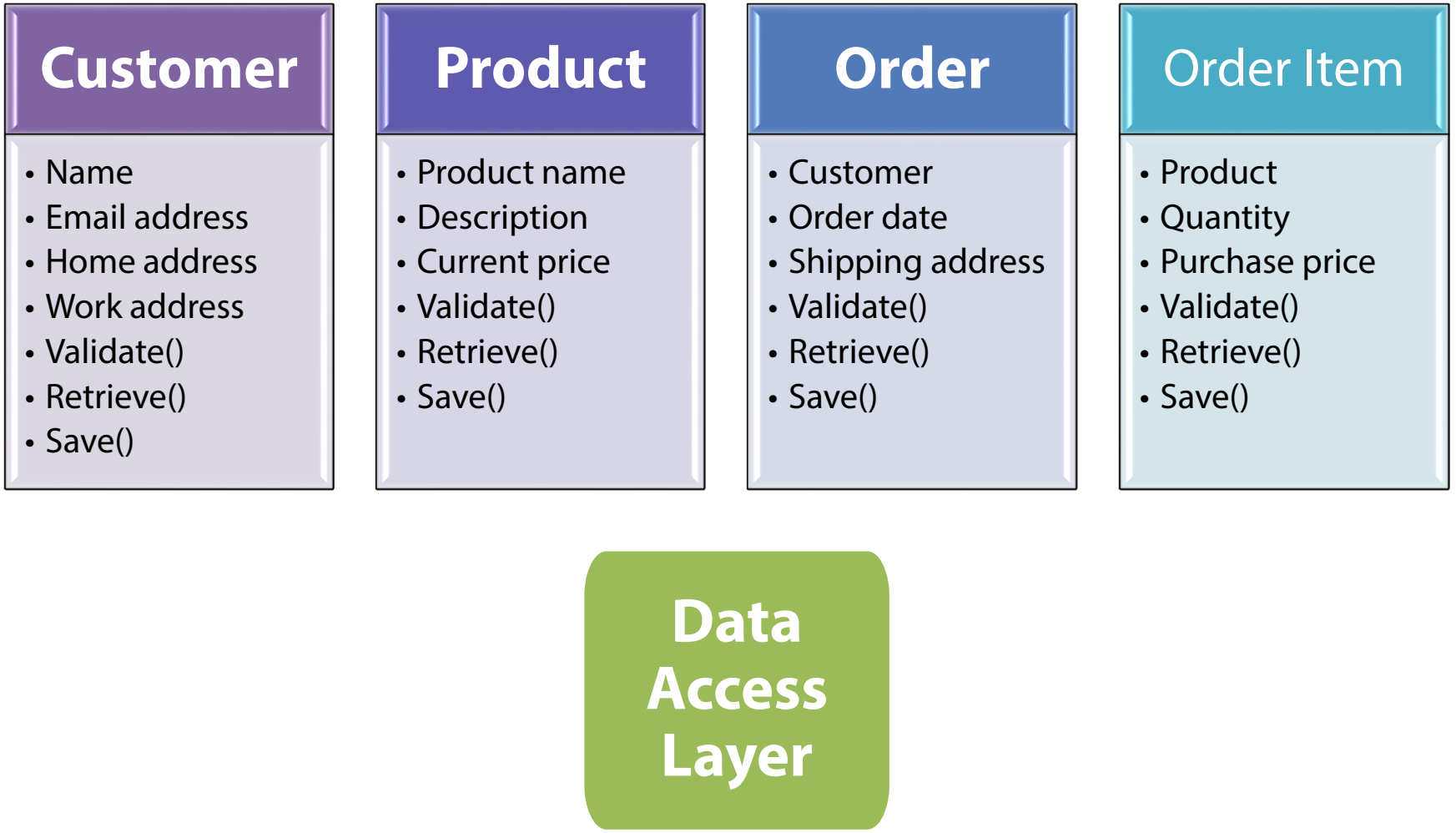

Sales
Marketing
Operations
Personnel
Admin
IT
President


Name
Email Address
Postal Address
Validate
Retrieve
Save
Customer

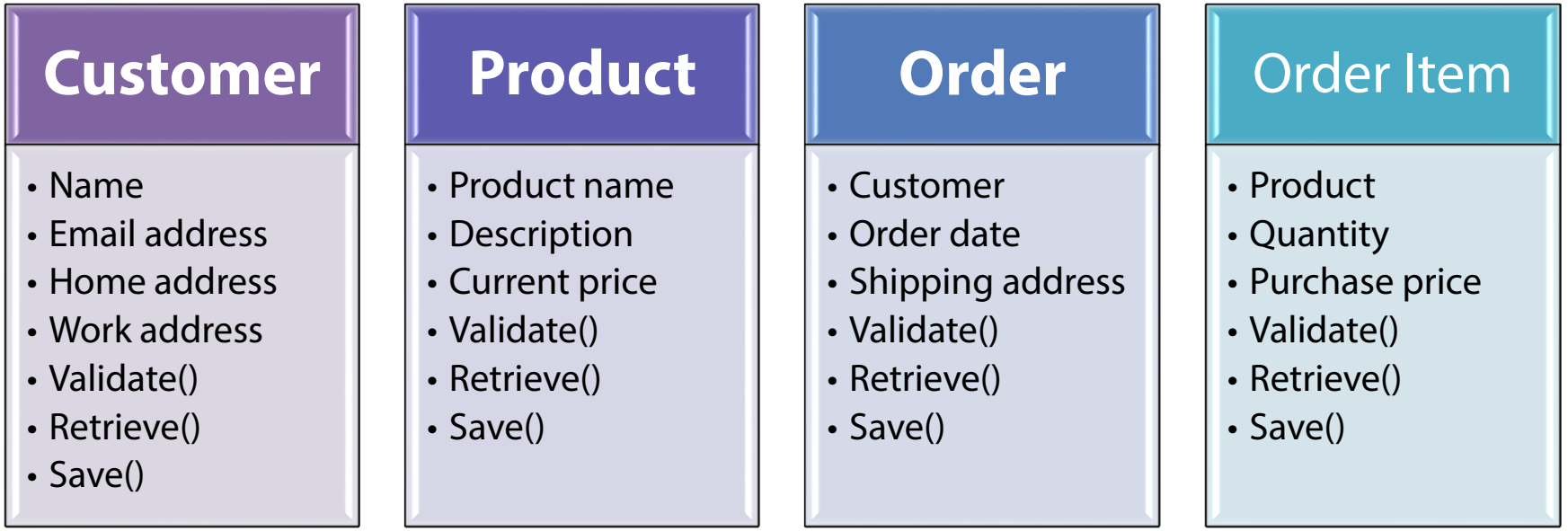
Object-Oriented Programming (OOP)



Coupling


Customer
• Name
• Email address
• Home address
• Work address
• Validate()
• Retrieve()
• Save()
Product
• Product name
• Description
• Current price
• Validate()
• Retrieve()
• Save()
Order
• Customer
• Order date
• Shipping address
• Validate()
• Retrieve()
• Save()
Order Item
• Product
• Quantity
• Purchase price
• Validate()
• Retrieve()
• Save()
Data Access Layer

Cohesion


Customer
• Name
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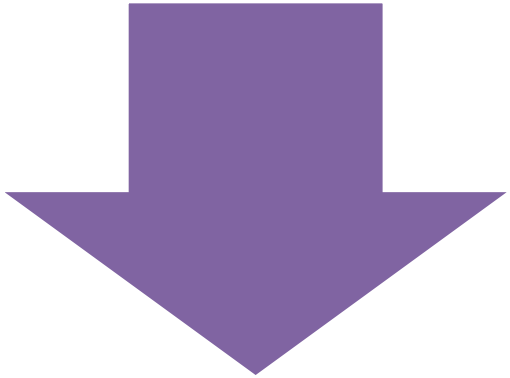
• Validate()
• Retrieve()
• Save()
Order Item
• Product
• Quantity
• Purchase price
• Validate()
• Retrieve()
• Save()

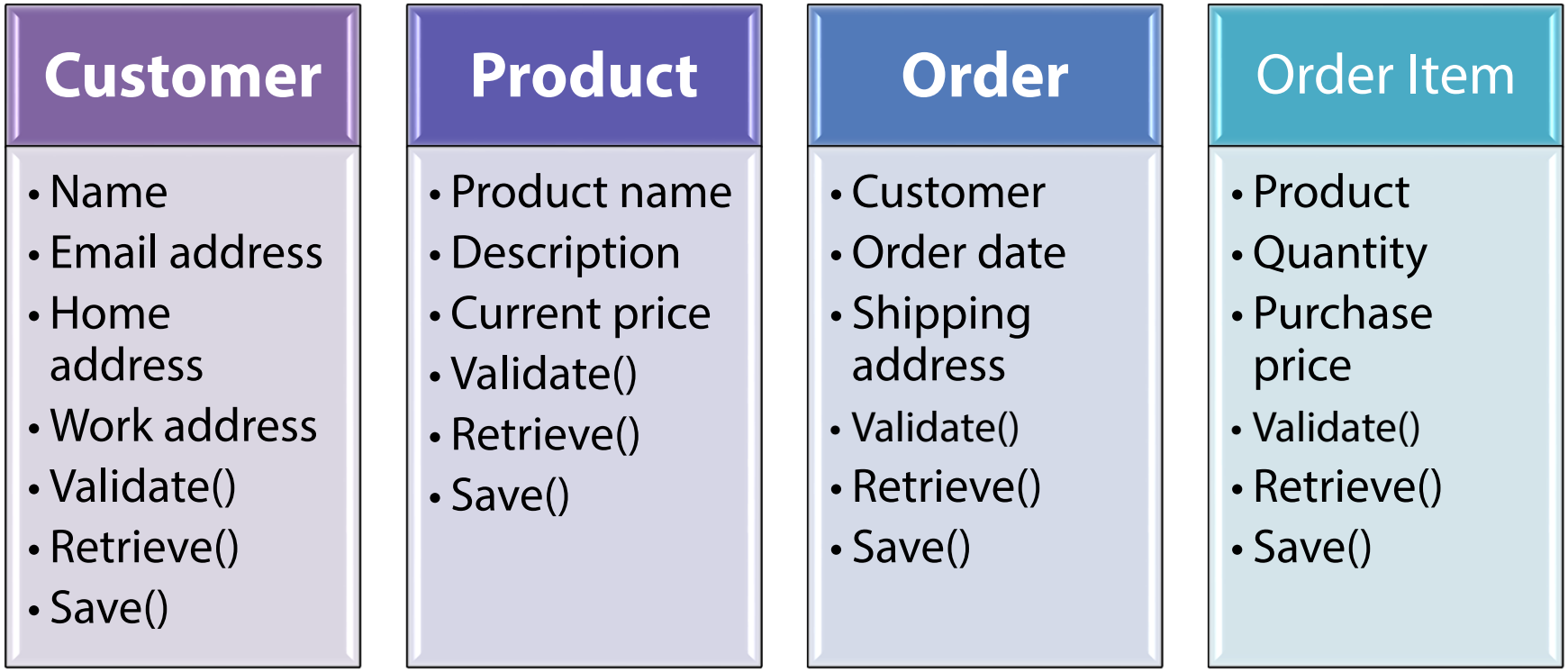
Maintainability & Testability



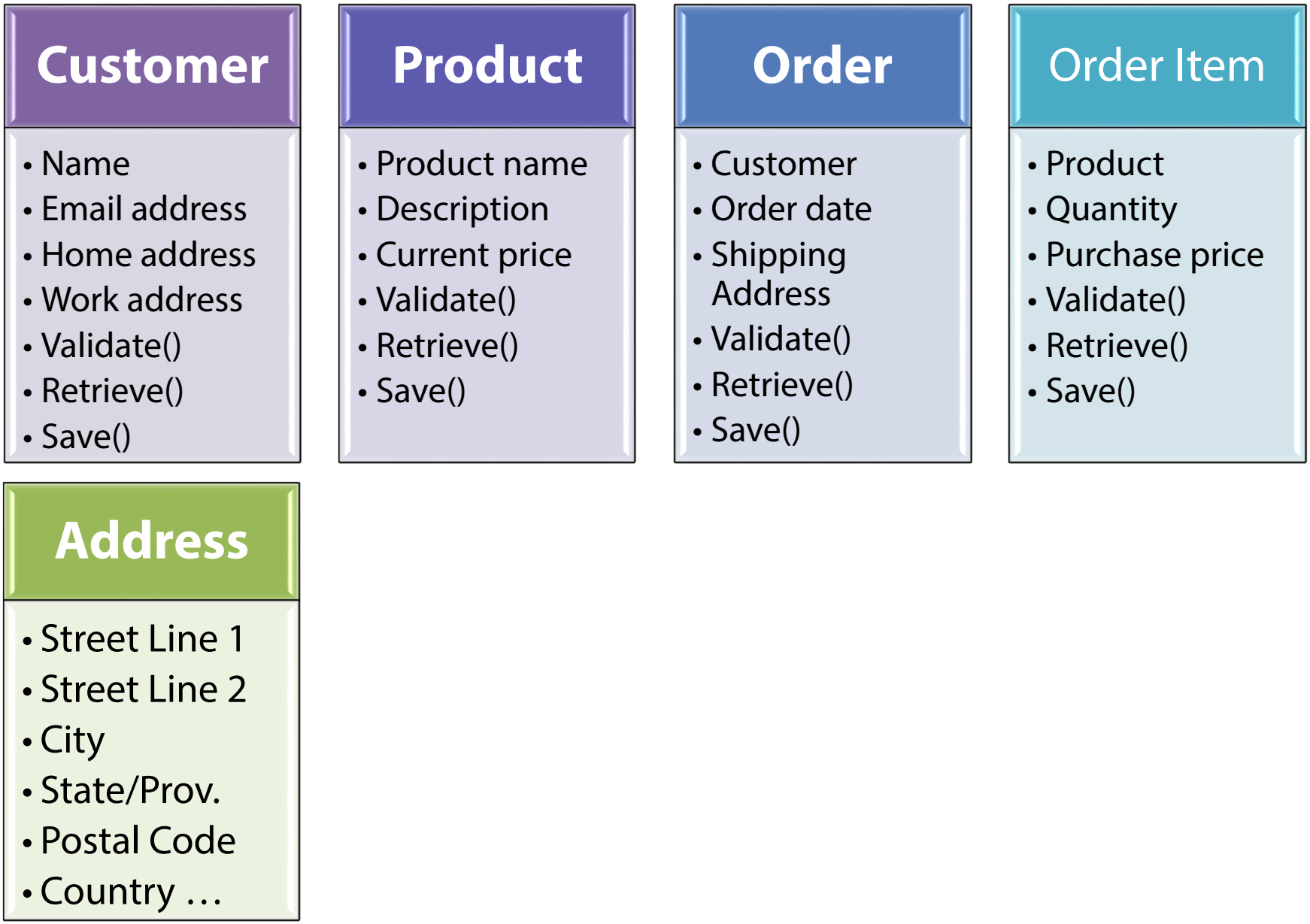
Low
Coupling

High
Cohesion

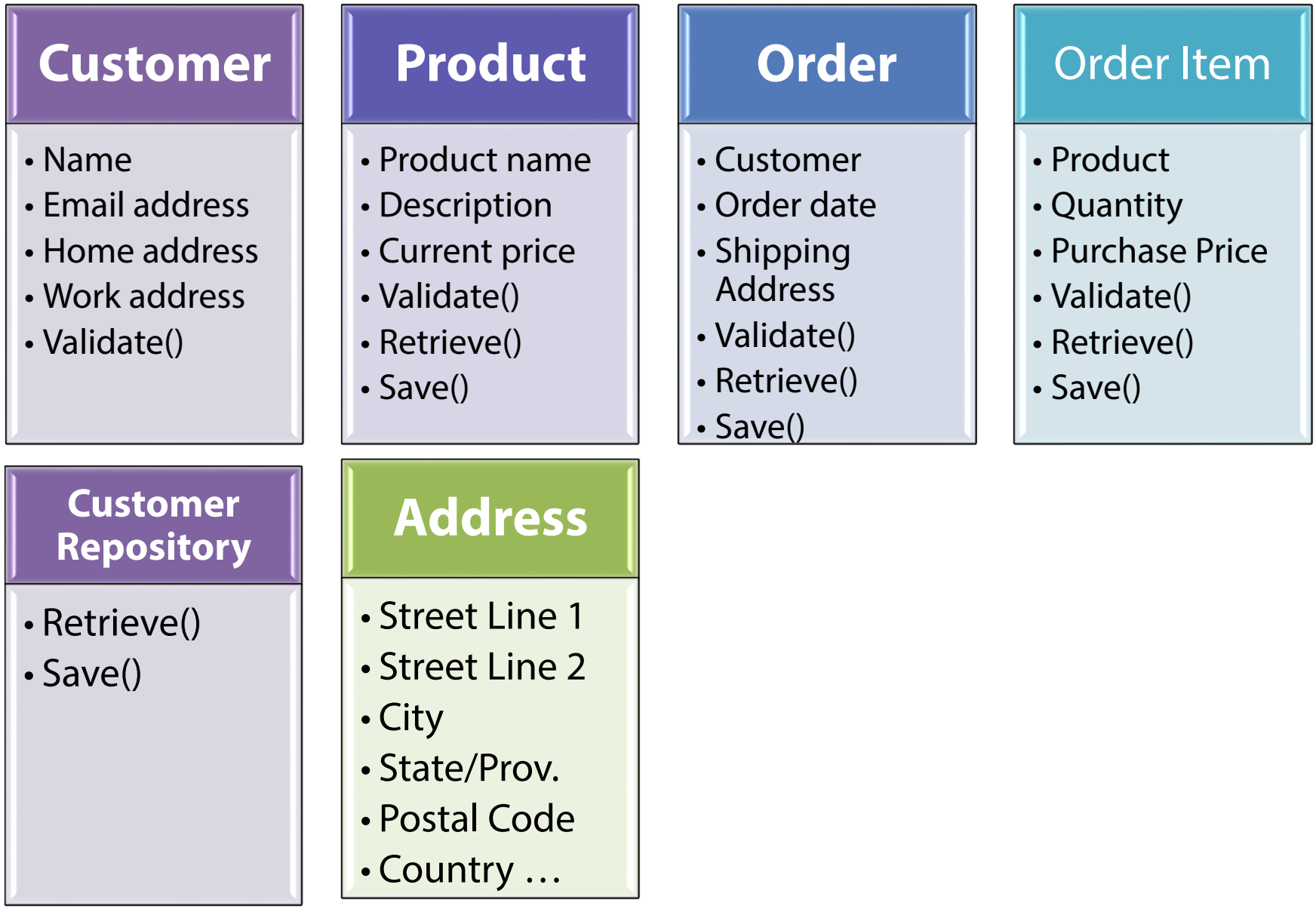
Separating Responsibilities



Separating Responsibilities



Separating Responsibilities



Separating Responsibilities

Customer	Product	Order	Order Item
• Name • Email address • Home address • Work address • Validate()	• Product name • Description • Current price • Validate()	• Customer • Order date • Shipping Address • Validate()	• Product • Quantity • Purchase Price • Validate() • Retrieve() • Save()

Customer Repository	Product Repository	Order Repository	Address
• Retrieve() • Save()	• Retrieve() • Save()	• Retrieve() • Save()	• Street Line 1 • Street Line 2 • City • State/Prov. • Postal Code • Country …

Summary

Coupling

Degree to which classes are dependent on each other

Cohesion

Degree to which members of the class relate to the purpose of the class

Separation of Concerns

Decompose an application into parts with minimal overlap
Each part is responsible for a separate concern

YAGNI

You Ain't Gonna Need It

Design Patterns

Common practices for defining appropriate classes and their associated relationships

Object-Oriented Programming (OOP)