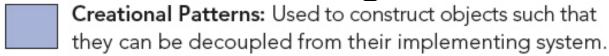
# Object-Oriented Technology and UML

Optional Topics in the Seminar

#### **Optional Topics**

- A design pattern from the 23 classic design patterns
- A principle from classic principles of objectoriented design
- Forward engineering and reverse engineering
- UML 4+1 view
- Applications of UML
- Any other topics associated with UML
- . . . . .

### 23 Classic Design Patterns



Structural Patterns: Used to form large object structures between many disparate objects.

Behavioral Patterns: Used to manage algorithms, relationships, and responsibilities between objects.

**Object Scope:** Deals with object relationships that can be changed at runtime.

Class Scope: Deals with class relationships that can be changed at compile time.

C	Abstract Factory
_	ADSITACL LACTOLY

S Adapter

S Bridge

C Builder

B Chain of Responsibility

**B** Command

S Composite

5 Decorator

S Facade

C Factory Method

5 Flyweight

**B** Interpreter

**B** Iterator

**B** Mediator

B Memento

C Prototype

S Proxy

B Observer

C Singleton

B State

B Strategy

B Template Method

B Visitor

## Principles Of Object-oriented Design

- (SRP) The Single Responsibility Principle
- (OCP) The Open Closed Principle
- (LSP) The Liskov Substitution Principle
- (ISP) The Interface Segregation Principle
- (DIP) The Dependency Inversion Principle
- (REP) The Reuse Release Equivalence Principle
- (CCP) The Common Closure Principle
- (CRP) The Common Reuse Principle
- (ADP) The Acyclic Dependencies Principle
- (SDP) The Stable Dependencies Principle
- (SAP) The Stable Abstractions Principle

#### Requirements

- For each team, choose a topic and make a speech, time is not more than 10 minutes
- For the principles of object-oriented design, the red marked are the candidates