

## Bruegge 99, Object Design, Chapter 7

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1. What are at least 3 of the 4 stages of object design? (4 points)
  - Service specification
  - Component selection
  - Object model restructuring
  - Object model optimization
2. For 1 of the stages you mentioned above, elaborate on what is involved during that stage. (4 points)
  - Service specification: Identification of the subsystem services in terms of class interfaces, including attributes and operations; arguments; type signatures and visibility; and exceptions. The result is a complete interface specification for each subsystem.
  - Component selection: Usage and adaptation of off-the-shelf components identified during system design, and class libraries and application frameworks for data structures and services.
  - Object model restructuring: The goal is to increase code reuse or meet other design goals such as maintainability, readability, and understandability of the system model. Activities include realizing associations, increasing reuse, and removing implementation dependencies.
  - Object model optimization: It addresses performance requirements of the system model. Activities include revisiting access paths, collapsing objects, caching the result of expensive computations, and delaying expensive computations.
3. How should error status be returned if you are using Java? Why? (2 points)

Java has a built-in mechanism for exception handling, which matches the concept of precondition very well, and allows for the specification of conditions that operations detect and treat as errors, or violation of preconditions.