

Object-Oriented Methodology Quiz 06

2024 Fall Semester

21 CST H3Art

Final Score: 100/100

1. How are attributes of a classifier shown in UML class diagrams?

- A. Only using attribute text notation
- B. Only using association line notation
- C. Using either attribute text or association line notation**
- D. Never shown directly

2. Which of the following is a principle of GRASP?

- A. Singleton
- B. Strategy
- C. Information Expert**
- D. Observer

3. In the context of GRASP, who should be responsible for creating a new instance of a class?

- A. Any class that needs it.
- B. The class that aggregates or contains the instance.**
- C. The UI layer.
- D. The system class.

4. High Cohesion in software design refers to:

- A. Minimizing the number of methods in a class.
- B. Keeping objects focused on a single responsibility.**
- C. Maximizing the number of objects in a system.
- D. Ensuring that objects are loosely coupled.

5. Which of the following is an example of a Pure Fabrication?

- A. A Sale class in an e-commerce application.
- B. A Payment class in a banking system.
- C. A PersistentStorage class responsible for database operations.**
- D. A Customer class in a CRM system.

6. Polymorphism allows handling alternatives based on what?

- A. Size
- B. Value
- C. Type**
- D. Quantity

7. Which artifact is used to illustrate use case realizations?

- A. Business Model
- B. Domain Model

C. UML Diagrams

D. Supplementary Specifications

8. Which of the following is NOT a benefit of the Protected Variations pattern?

A. Easy to add extensions for new variations.

B. Increased coupling between components.

C. New implementations can be introduced without affecting clients.

D. Lowered impact of changes.

9. Which GRASP pattern aims to protect systems from the impact of variations or instabilities?

A. Pure Fabrication

B. Creator

C. Protected Variations

D. Low Coupling

10. What is the purpose of a note symbol in UML diagrams?

A. To indicate a class type

B. To add comments or constraints

C. To show relationships

D. To define attributes

11. Which of the following can be used to show user-defined properties in UML class diagrams?

A. Only predefined keywords

B. Only stereotypes

C. Property strings

D. Association names

12. What does a singleton class imply in object-oriented design?

A. It has multiple instances

B. It has one instance

C. It cannot be instantiated

D. It can only be used in design class diagrams

13. In the context of GRASP patterns, what does "Pure Fabrication" refer to?

A. A class that represents a real-world problem domain concept.

B. A class that is created for convenience and does not represent a domain concept.

C. A class that handles all data access operations.

D. A class that controls the user interface.

14. What does the {ordered} keyword imply in a UML class diagram?

A. The attribute is private

B. The attribute is a collection of unique elements

C. The collection elements are ordered

D. The attribute is an interface

15. What is the primary purpose of UML class diagrams?

A. To illustrate interaction between objects

B. To model static objects and their relationships

- C. To define method implementations
- D. To show dynamic behavior of objects

16. What is the notation for an association end that indicates an attribute name?

- A. A dashed line
- B. A solid line with an arrow
- C. A rolename**
- D. A multiplicity value

17. Which UML relationship implies a strong whole-part relationship?

- A. Aggregation
- B. Composition**
- C. Association
- D. Generalization

18. Which of the following is NOT a GRASP pattern?

- A. Information Expert
- B. Polymorphism
- C. Indirection
- D. Singleton**

19. How is a dependency relationship between two classes shown in UML?

- A. A solid line with an arrow
- B. A dashed line with an arrow**
- C. A dotted line
- D. A solid line without an arrow

20. In the context of use case realizations, what do system operations become?

- A. Starting messages entering the UI layer
- B. Ending messages exiting the domain layer
- C. Starting messages entering the domain layer controllers**
- D. Feedback messages for the user interface

21. Protected Variations is a fundamental principle that aims to protect systems from the impact of variations.



22. A navigability arrow in an association line indicates that an attribute exists from the source object to the target object.



23. According to the Controller pattern, the UI layer should handle system operations.



24. Pure Fabrications are always preferred over representational classes in object-oriented design.



25. In UML, an active class runs on and controls its own thread of execution.



26. User-defined compartments can be added to class boxes in UML class diagrams.



27. The Indirection pattern is used to directly couple two components.



28. The {unique} keyword implies that a collection contains ordered elements.



29. Low Coupling in software design always leads to better designs, regardless of other considerations.



30. Coupling and cohesion are unrelated principles in software design.



31. GRASP patterns are only useful for beginners in object-oriented design.



32. In the context of GRASP patterns, the High Cohesion pattern is about ensuring that related classes are tightly coupled.



33. Constraints in UML class diagrams can only be written in natural language.



34. Polymorphism means giving the same name to similar services in different objects.



35. Dependency lines in UML class diagrams are always labeled with keywords or stereotypes.



36. GRASP stands for General Responsibility Assignment Software Principles.



37. UML class diagrams are used for dynamic object modeling.



38. An association class allows you to treat an association itself as a class.



39. Information Expert is a GRASP pattern that advises assigning responsibilities to the class that has the information needed to fulfill them.



40. The Low Coupling pattern aims to increase the number of interactions between objects.

