Congratulations! You passed!
Grade received 100%Latest Submission Grade 100%To pass 75% or higher
 Go to next item Retake the assignment in 7h 56m

1. Which of these terms are used to describe coupling? Choose the 3 correct answers.   1 / 1 point

   ☑ ease

   ⊘ Correct
   Correct! Ease is how easily a component can be switched for a different one.

   ☐ frequency
   ☐ exposed
   ☑

   degree

   ⊘ Correct
   Correct! Degree is how much two components are connected

   ☑ flexibility

   ⊘ Correct
   Correct! Flexibility is how easily a component can be used for another purpose.

2. Which is the most desirable?   1 / 1 point

   ⦿ high cohesion, loose coupling
   ○ high cohesion, tight coupling
   ○ low cohesion, tight coupling
   ○ low cohesion, loose coupling

   ⊘ Correct
   Correct!

3. What are some keywords you might use for information hiding in Java? Select the three correct answers.   1 / 1 point

   ☑ protected

   ⊘ Correct

Correct! This will hide information from all classes except those in the same package or those that extend.

☑ private

✓ Correct
Correct! This will hide variables or methods from all other classes.

☐ abstract

☑ [none]

✓ Correct
Correct! Having no keyword will make the variable or method default to only being accessible by the class and its subclasses.

4. What are the best ways to promote Conceptual Integrity in your software? Choose the two correct answers.   1 / 1 point

☐ Delegating development of different components to different teams

☐ Good commenting

☑ Regular code reviews

✓ Correct
Correct! Regular code reviews will get everyone to think together about the best conventions to use in your software, and allow the team to correct missteps.

☑ Planning the architecture of the system

✓ Correct
Correct! Planning ahead will allow your team to discuss issues relating to conceptual integrity ahead of time.

5. Information Hiding is closely related to one of the core design principles of object-oriented design. Which one?   1 / 1 point
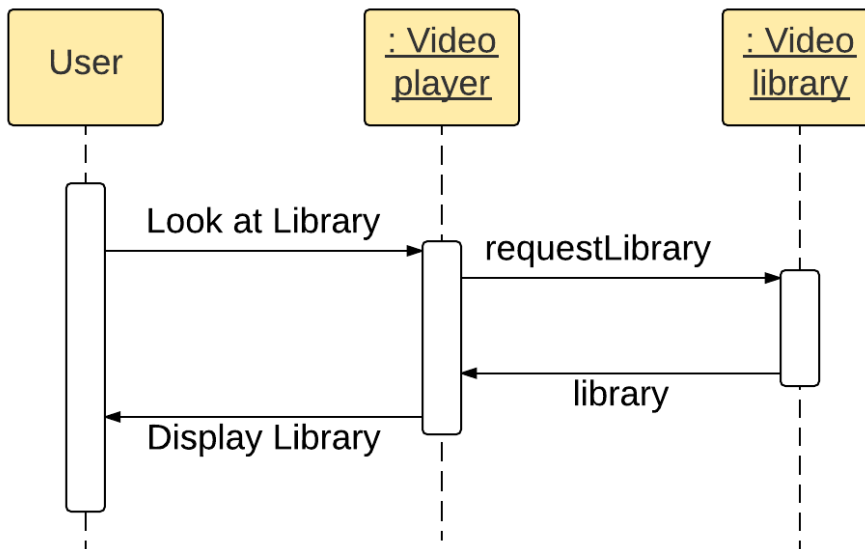
○ abstraction

◉ encapsulation

○ generalization

○ decomposition

✓ Correct
Correct! Information hiding involves hiding away those details that are not important to outside classes. This is closely related to encapsulation.
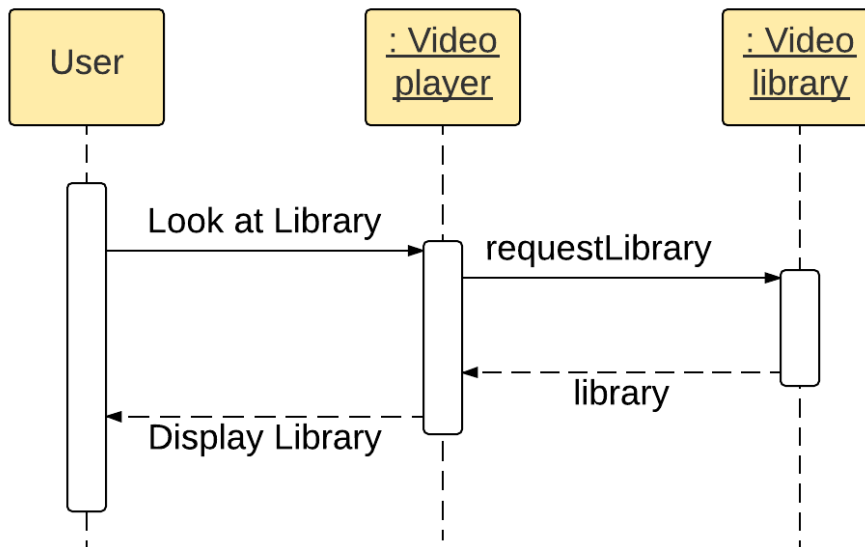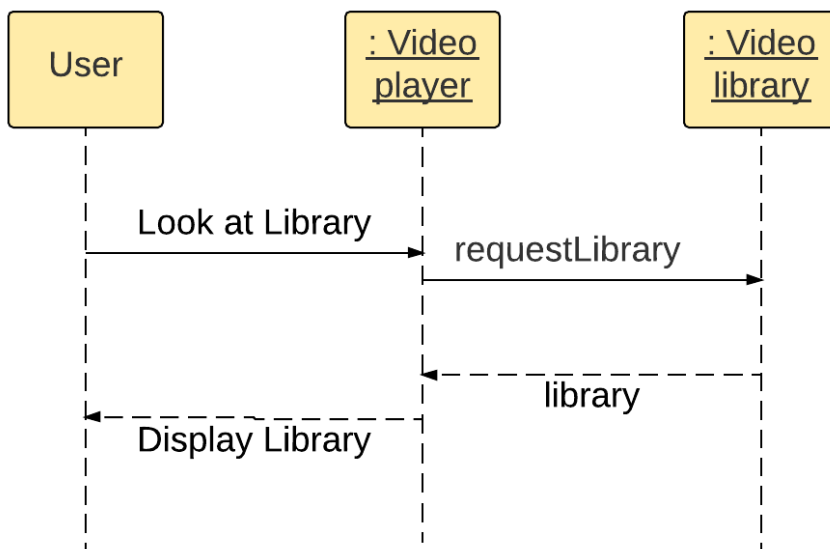
6. Which of these sequence diagrams is correct?

a)

User → : Video player : Look at Library

: Video player → : Video library : requestLibrary

: Video library → : Video player : library

: Video player → User : Display Library

b)

User → : Video player : Look at Library

: Video player → : Video library : requestLibrary

: Video library ⇢ : Video player : library

: Video player ⇢ User : Display Library

c)

User → : Video player : Look at Library

: Video player → : Video library : requestLibrary

: Video library ⇢ : Video player : library

: Video player ⇢ User : Display Library

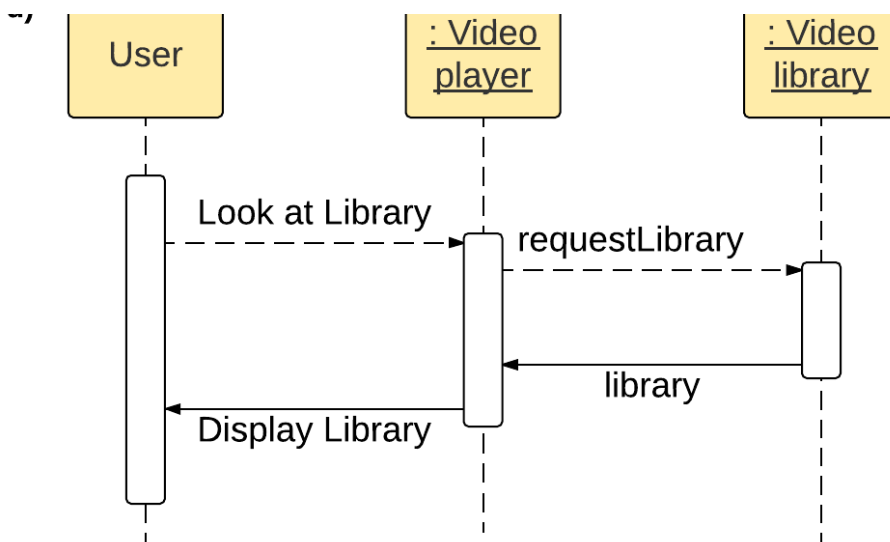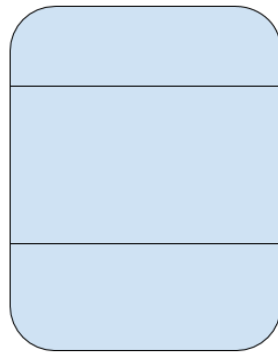**d)**

- a)
- b) ●
- c)
- d)

✓ Correct

Correct! This is a complete sequence diagram.

7. What are elements of a state in a State diagram (see diagram)? Choose the three correct answers.

1 / 1 point

☐ responsibilities

☐ events

☑ state name

   ✓ Correct
   Correct! The name of the state is at the top section of a state.

☑ state variables

   ✓ Correct
   Correct! State variables are manipulated depending on the state.

☑ activities

   ✓ Correct
   Correct! The activities that are specific to this state are listed, sometimes including those that occur when entering or exiting the state.

8. When is Model Checking conducted?   1 / 1 point

   ⦿ After development

   ◯ During planning

   ◯ During development

○ After deployment

✓ Correct
Correct! Model Checking is done after the bulk of the development is finished.

9. What are the phases of Model Checking? Choose the 3 correct answers.   1 / 1 point

☐ Counterexample Phase

☑ Analysis Phase

✓ Correct
Correct! The counterexamples that were identified in the running phase are
analysed to find the causes of the issues and the solution to each.

☑ Running Phase

✓ Correct
Correct! The model checking software identifies counterexamples if there are any.

☑ Modeling Phase.

✓ Correct
Correct! First the team creates a model for testing the software in all of its different
states.

☐ Model Simulation

10. During model checking, what is the name for a violation of the desired properties of the   1 / 1 point
model?

○ Error
○ Model Gap
⦿ Counterexample
○ Redevelopment

✓ Correct
Correct! This is called a counterexample.

11. When two processes cannot run because they are waiting on the same resource, it's called…

1 / 1 point

○ Mutual lock

○ Transition lock

⦿ Deadlock

○ State lock

✓ Correct
Correct! This is called a deadlock.

12. Choose the three examples of inheritance used poorly:

1 / 1 point

☑ A method in the superclass is overwritten with different behaviour by a subclass.

✓ Correct
Correct! This violates Liskov's Substitution Principle, which states that a superclass should be able to be substituted by a subclass without error.

☑ Inheritance is used to share behaviour without specializing

✓ Correct
Correct! If inheritance is merely used to share behaviour and not much more, consider skipping it altogether and just using the superclass.

☑ A subclass inherits methods from the superclass and adds extra, new, unrelated functionality

✓ Correct
Correct! If your subclass inherits some behaviour and adds unrelated functionality, it is not very coherent. You should consider decomposing these responsibilities into different interfaces.

☐ The subclasses inherit methods from the superclass and have their own specific, related methods.