

Unit 9 - Week 7 :

|  |
|--|
| Course outline   |
| How does an NPTEL online course work?  |
| Week 0 :   |
| Week 1 :   |
| Week 2 :   |
| Week 3 :   |
| Week 4 :   |
| Week 5 :   |
| Week 6 :   |
| Week 7 : <ul style="list-style-type: none"><li>Lecture 31 : OOAD - II</li><li>Lecture 32 : Example Application of OOAD</li><li>Lecture 33 : CRD Cards</li><li>Lecture 34 : Open/Closed Principle</li><li>Lecture 35 : LSP, ISP Principles</li><li>Lecture Materials For Week 7</li><li>Quiz : Assignment 7</li><li>Feedback for week 7</li></ul> |
| Week 8 :   |
| Week 9 :   |
| Week 10 :  |
| Week 11 :  |
| Week 12 :  |
| Download Videos  |
| Assignment Solution  |
| Live Interactive Session   |
| Text Transcripts   |

Assignment 7

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

Due on 2020-11-04, 23:59 IST.

1)

Which one of the following is not a responsibility of a controller object in a domain model?

a. Interact with the boundary objects

b. Coordinate the activities of a set of entity objects

c. Embody most of the business logic required for use case execution

d. Permanently store frequently used data

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: d

2)

Consider the following use case diagram for a supermarket automation software.

The diagram shows a system boundary labeled 'Supermarket Price scheme'. Inside, there are three use cases: 'Register Customer', 'Select Item', and 'Checkout'. 'Register Customer' is connected to 'Select Item' and 'Checkout'. 'Select Item' is connected to 'Checkout'. Outside the boundary, there are four actors: 'Customer', 'Sales Clerk', 'Manager', and 'Clerk'. 'Customer' is connected to 'Register Customer'. 'Sales Clerk' is connected to 'Select Item'. 'Manager' is connected to 'Register Customer'. 'Clerk' is connected to 'Checkout'.

Based on the use case diagram, how many boundary classes should be designed in the domain model?

a. 2

b. 3

c. 4

d. 6

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: c

3)

Consider the following use case diagram for a supermarket automation software.

The diagram shows a system boundary labeled 'Supermarket Price scheme'. Inside, there are three use cases: 'Register Customer', 'Select Item', and 'Checkout'. 'Register Customer' is connected to 'Select Item' and 'Checkout'. 'Select Item' is connected to 'Checkout'. Outside the boundary, there are four actors: 'Customer', 'Sales Clerk', 'Manager', and 'Clerk'. 'Customer' is connected to 'Register Customer'. 'Sales Clerk' is connected to 'Select Item'. 'Manager' is connected to 'Register Customer'. 'Clerk' is connected to 'Checkout'.

Based on the use case diagram, how many controller classes should be designed in the domain model.

a. 2

b. 3

c. 4

d. 6

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: b

4)

Which one of the following statements is FALSE regarding CRC cards?

a. CRC cards are used to assign methods to classes

b. CRC cards are used to assign class-level attributes to classes

c. CRC cards stands for Class-Responsibility-Collaborator cards

d. Use of CRC cards involves performing structured walkthrough of scenarios

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: b

5)

Which one of the following types of programming does not contribute to increased dependency in a program?

a. Providing additional functionality by subclassing existing classes

b. Creating an object by explicitly calling the new method of a concrete class.

c. Use of abstract classes and interfaces

d. Dependence on hardware and software platforms

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: c

6)

Which one of the following problems is not caused by increased dependencies in an object-oriented design?

a. Reduced execution time efficiency

b. Even small modifications break the system

c. Scope of reuse diminishes

d. Debugging costs rise

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: a

7)

Which one of the following is not implied by the open/closed principle (OCP)?

a. Classes should be open for extension, but closed for modification.

b. Once components are successfully tested --- they should never change, only extended to meet the requirements changes.

c. Program to an Interface.

d. Higher level modules should not depend on the concrete lower level modules.

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: d

8)

Suppose you realize that your design violates the single responsibility principle (SRP)? You should deploy which one of the following to remedy the problem?

a. Encapsulation

b. Delegation

c. Subclassing

d. Static binding

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: b

9)

Which one of the following statements is not true of entity objects in a domain model?

a. Hold information over long term

b. Normally are responsible for storing data, fetching data, and carrying out elementary operations on data: searching, sorting, etc.

c. Often appear as nouns in problem description

d. Coordinate the actions of various objects participating in the execution of a use case

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: d

10)

Suppose a designer has used inheritance to extend a class along unrelated dimension. In this situation, the design would violate which one of the following principles?

a. Single Responsibility Principle (SRP)

b. Dependency Inversion Principle (DIP)

c. Liskov Substitution Principle (LSP)

d. Open/Closed Principle (OCP)

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: a

11)

Which one of the following is **not** implied by the dependency inversion principle (DIP)?

a. Depend on Abstractions--- not on concretions

b. Higher level modules should not depend on the concrete lower level modules.

c. Abstractions should not depend on details --- details should depend on abstractions.

d. Once a class is successfully tested --- it should never change, only extended to meet the requirements changes.

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: d

12)

A bank has two main types of accounts cash account or credit account. Also, either type of account can be held either by an individual or an Institution. Consider the following design that a designer has arrived at for the bank automation.

The diagram shows a hierarchy of classes. At the top is 'Account'. It has two subclasses: 'Cash Account' and 'Credit Account'. 'Cash Account' has a subclass 'Individual Cash Account'. 'Credit Account' has two subclasses: 'Individual Credit Account' and 'Institutional Account'. 'Individual Credit Account' has a subclass 'Individual Credit Account'.

Which one of the following design principles does the given design violate?

a. Single Responsibility Principle (SRP)

b. Dependency Inversion Principle (DIP)

c. Liskov Substitution Principle (LSP)

d. Open/Closed Principle (OCP)

☐ a.

☐ b.

☐ c.

☐ d.

No, the answer is incorrect.  
Score: 0  
Accepted Answers: a