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NPTEL (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » Software Engineering (course)

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Course outline

About
NPTEL ()

How does an
NPTEL
online
course
work? ()

Week 0 ()

Week 1 : ()

Week 2 : ()

Week 3 : ()

Week 4 : ()

Week 5 : ()

Week 6 : ()

Week 7 : ()

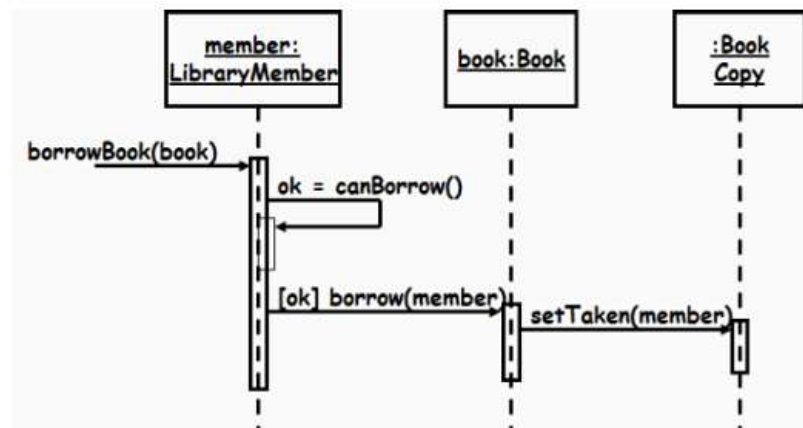
Week 8 : Assignment 8

Assignment not submitted

Due date: 2025-09-17, 23:59 IST.

1)

1 point

Consider the following sequence diagram for the **borrow book** use case.Based on the sequence diagram, which methods will get allocated to the **LibraryMember** class.

- a. borrow
- b. canBorrow
- c. borrowBook and canBorrow
- d. borrow, borrowBook, and canBorrow
- e. borrow and canBorrow

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.

Week 8 : ()

● Lecture 36 :
Aggregation/
Composition
and
dependency
relations (unit?
unit=73&lesso
n=74)

● Lecture 37 :
Interaction
Modelling
(unit?
unit=73&lesso
n=75)

● Lecture 38 :
Development
of Sequence
diagrams
(unit?
unit=73&lesso
n=76)

● Lecture 39 :
State-Machine
diagram (unit?
unit=73&lesso
n=77)

● Lecture 40 :
An Object-
Oriented
design
process (unit?
unit=73&lesso
n=78)

● Lecture
Material For
Week 8 (unit?
unit=73&lesso
n=79)

○ Quiz: Week 8
: Assignment
8
(assessment?
name=217)

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☐ e.

2)

1 point

Which one of the following best characterizes a sequence diagram?

- a. A call graph illustrating all possible sequences of calls between class method members
- b. A time-line illustrating possible sequence of calls made among object methods
- c. A time-line illustrating the changes in inheritance and instantiation relationships between classes and objects over time
- d. A tree illustrating inheritance relationship between classes
- e. A graph indicating the sequence of state changes during a use case execution

☐ a.

☐ b.

☐ c.

☐ d.

☐ e.

3)

1 point

Which of the following UML diagrams should you use when allocating use-case behavior to classes?

- a. Sequence and communication diagrams
- b. Use-case and activity diagrams
- c. Sequence and activity diagrams
- d. Class and composite structure diagrams
- e. State chart and class diagrams

☐ a.

☐ b.

☐ c.

☐ d.

☐ e.

4)

1 point

Given the statement: "All rectangles are polygons, but not all polygons are rectangles," what is the most appropriate object-oriented relationship between the Rectangle and Polygon classes?

- a. Aggregation
- b. Inheritance, with Polygon as the subclass of Rectangle
- c. Inheritance, with Rectangle as the subclass of Polygon
- d. Composition
- e. Association

☐ a.

☐ b.

()

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Session ()**

- ☐ c.
☐ d.
☐ e.

5)

1 point

Consider the statement: "A bank allows its customers to open several types of accounts such as saving account, current account, deposit account, and loan account." What can be said about the relationship that exists between the **Account** class and **Loan Account** class?

- a. Inheritance
b. Aggregation
c. Composition
d. Dependency
e. Association

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

6)

1 point

Which one of the following is true of unary association?

- a. It is defined between multiple classes
b. It is defined on exactly one object
c. It is defined between multiple objects of the same class
d. It is defined between multiple objects of different classes
e. It is defined between two different classes with multiplicity of one

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

7)

1 point

Which one of the following can be said of the typical use of a sequence diagram?

- a. It is used to model the behavior of a single object when many use cases are executed
b. It is used to model the behavior of several objects when a single use case is executed
c. It is used to model the behavior of a single object when a single use case is executed
d. It is used to model the behavior of several objects when many use cases are executed
e. It is used to model the states and transitions among the states

- ☐ a.
☐ b.

- ☐ c.
- ☐ d.
- ☐ e.

8)

1 point

A library automation software is to be designed. Before a book can be issued to a member, it needs to be checked whether the member has cleared all past dues. Which one of the following mechanisms is most appropriate to factor the **issue book** use case into reserve book and check pending dues use cases?

- a. Inheritance
- b. Dependency
- c. Include
- d. Extend
- e. Aggregation

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.
- ☐ e.

9)

1 point

Which one of the following is true of an object-oriented design solution incorporating a deep inheritance hierarchy?

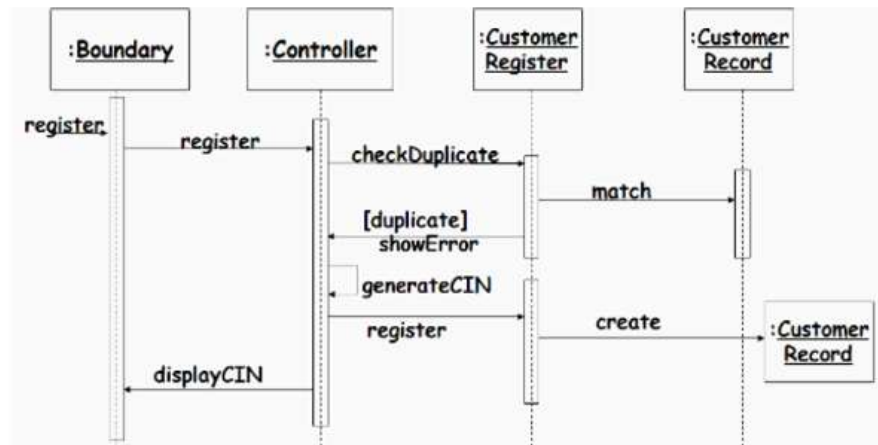
- a. It is a sign of a good design as it increases reuse
- b. It is a sign of a good design as it leads to the realization of sophisticated and versatile classes at the leaf level
- c. It is a good design as it makes the most of the inheritance feature
- d. It is a sign of good design as it increases the scope for additional polymorphic bindings
- e. It is a sign of bad design as it breaks encapsulation

- ☐ a.
- ☐ b.
- ☐ c.
- ☐ d.
- ☐ e.

10)

1 point

Consider the following UML sequence diagram. Based on the given sequence diagram, which one of the following methods should be implemented by the Controller class?



- a. register
- b. register, checkDuplicate
- c. register, showError, generateCIN
- d. displayCIN, checkDuplicate, register
- e. displayCIN, checkDuplicate, register, create

- ☐ a.
☐ b.
☐ c.
☐ d.
☐ e.

You may submit any number of times before the due date. The final submission will be considered for grading.

Submit Answers