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Professor Alizadeh
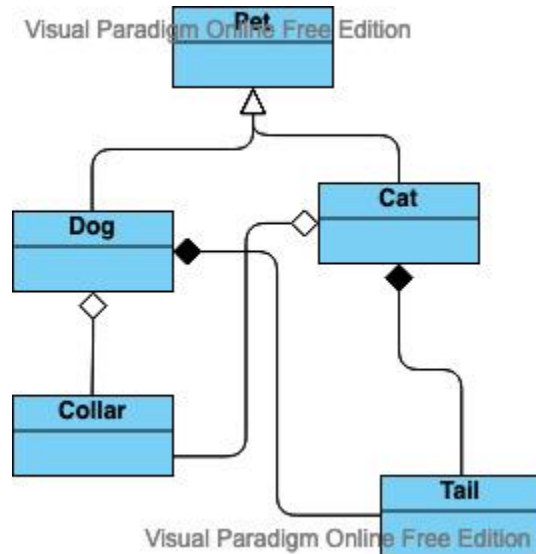
SE 350

April 29, 2021

<center>Midterm</center>

1. Question 1

    1. True because when you change an instance variable you cannot access that new variable from another instance of the class.

    2. False because a constructor cannot have any return type, not even void.

    3. True because another name for a default constructor is a non-parameterized constructor.

    4. False because you can only call a constructor once to create an instance of the class. Also constructors have no return types.

    5. True so long as the instance variable x is public then this code could work.

    6. False because in order for a method to not be able to be called outside of its package then it must be protected.

    7. True because a method must be public in order to be used outside the same package.

    8. True because the initializers are executed in the order of their appearance in the class.

    9. True because the "this" keyword only works within a given class.

    10. True because the compiler will call the method from the class by default.

2. Question 2

1. The difference between aggregation and composition is that the latter is a more strict form of the former. The classes within an aggregation association could survive without each other while the classes within a composition association could not. Aggregation is illustrated with a hollow diamond while composition is illustrated with a filled diamond.
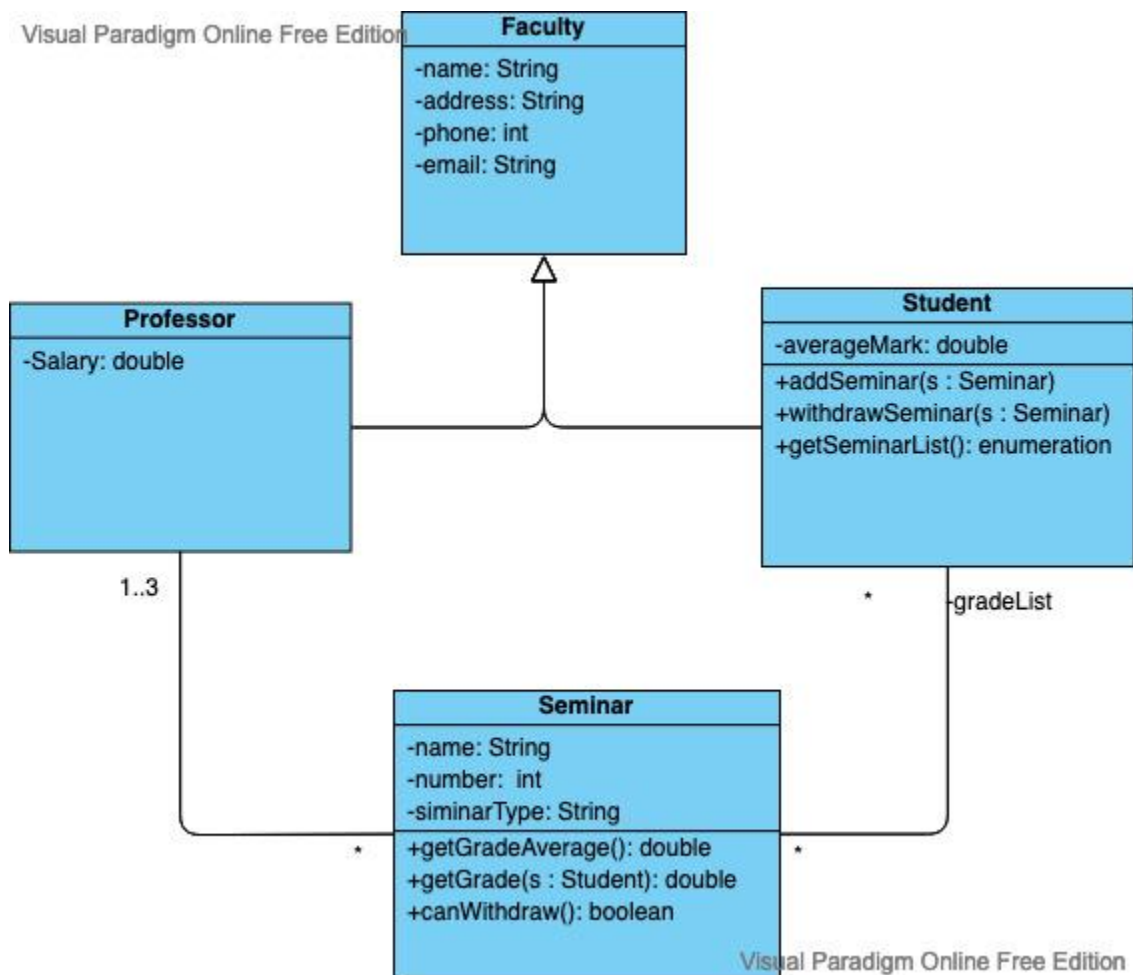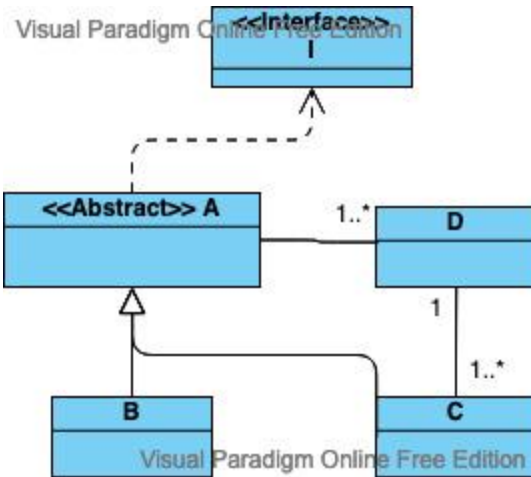
2.

3. Question 3

    1. Second2

    2. Third2

    3. Fourth2

    4. Third2

    5. Second2

    6. Third2

    7. Fourth2

    8. Third2

    9. error

10. Third1/Second2

4. Question 4 is in the "question4" package

5. I chose to include 4 classes. I chose to generalize professor and student into a super class of faculty. I did this because the two share many of the same fields and would therefore share many getter and setter methods. I chose to associate Professor and Student with the Seminar class without any arrows. I did this because there didn't seem to be a directionality.

6. Question 6

   1. Part A of this question is in the "question6" package

<<Interface>>
I

<<Abstract>> A   1..*   D

1

1..*

B   C

2.

7. Question 7 is in the "question7" package