

Read the following description and write the coding of **5 classes** you have identified using a class diagram. You need not upload or / draw the class diagram here. You have to only write the coding of the classes showing the relationships clearly. You need not write all methods of the classes or the attributes. You may need to include the necessary methods and the attributes only to show the correct relationships between the classes. ( Do not use the TAB key while you type in the answer box as it may go to next Question ) - (20 marks)

A new Cable TV company called VTV is providing over 100 entertainment TV channels to customers. Any person can become a customer by registering with VTV. The customer has to provide customer details and the package ( channels he wishes to see ) during the registration. The customer is provided with a unique customer number. The customer details are stored in the customer table and the package details selected by the customer are stored in the subscription table. Once a month the VTV sends the customer a detailed bill. This is produced using the data stored in the Subscription Table, Customer Table, and Channel details Table. The customer can login to VTV's website and perform several online tasks. The customer can add new channels to the subscription he has. He can remove channels from his subscription. In both cases the Subscription Table should be updated. In addition the customer can provide a list of channels that he wants to get a detailed weekly TV schedule by email. These details are also stored in the Subscription Table. The customer can pay the monthly bills online using a credit card. He has to provide the credit card details and the amount to the system. The payment details are stored in the Payments Table. Every week VTV sends customers who have requested detailed TV schedules the details by email. TV schedules are stored in the Channel details Table.

≡ Quiz navigation

MCQ - 40 MARKS				
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STRUCTURED - 20 MARKS				
41	42	43	44	45
48	49	50		

Question 15  
Not yet answered  
Marked out of 1.00  
Flag question

Online Exams  
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Person      Vehicle      Manufacturer

```

classDiagram
    class Person {
        +Name
    }
    class Vehicle {
        +Model
        +RegistrationNo
    }
    class Manufacturer {
        +Name
        +Country
    }
    Person "1" -- "1..*" Vehicle : +Model
    Person "0..*" -- "1" Vehicle : +RegistrationNo
    Vehicle -- "1..*" Manufacturer : +Name
  
```

What is correct about the "Vehicle" as shown on the diagram:

Select one:

- a. It's an association class
- b. It's a super class
- c. It's a class
- d. It's a derived class
- e. It's an abstract class.

NEXT PAGE

≡ Quiz navigation

MCQ - 40 MARKS							
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STRUCTURED - 20 MARKS							
41	42	43	44	45	46	47	48
49	50						
ESSAY - 40 MARKS							
51	52						
FEEDBACK							
53							

**Question 18**  
Not yet answered  
Marked out of 1.00  
 Flag question

```

classDiagram
    class Shape {
        <<Shape>>
        <<getArea()>>
    }
    class Rectangle {
        <<length>>
        <<width>>
        <<Rectangle()>>
        <<Rectangle(int, int)>>
        <<getArea()>>
    }
    Shape <|-- Rectangle
  
```

What is the relationship shown in the above diagram ?

**select one:**

**Question 51**  
Not yet answered  
Marked out of 1.00  
 Flag question

Consider the given scenario and write 5 CRC cards. You can identify 5 classes and use the template of the CRC card (Table) and fill the details necessary. (Do not use TAB key to move to columns in the table as it may lead to next question in the exam) - (20 marks)

The Software system is supposed to manage information about Doctors. Doctors can be of two categories, namely General Practitioners and Specialists. So, that, you have decided to add three classes called Doctor, General Practitioner and Specialists to your application. A Doctor has a name, address, phone number and a registered number as properties. A general Practitioner has a name, address, phone number, registered number and hourly rate as properties. A Specialist has a name, address, phone number, registered number and doctor's charge per patient as properties.

At the end of the every month, the system must calculate the total payments for each Doctor. General Practitioners are paid based on the number of visiting hours during the month and Specialists are paid based on the number of patients consulted during a month.

Total payment for General Practitioner is equal to the multiplication between hourly rate and the number of visiting hours during the month. Total payment for a Specialist is equal to the multiplication between doctor charge and the number of patients consulted during the month. You may take the number of patients consulted as parameter.

<input type="checkbox"/>								
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class name \_\_\_\_\_  
Responsibilities Collaborations \_\_\_\_\_

**MCQ - 40 MARKS**

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**STRUCTURE**

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**ESSA**

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**MCQ - 40 MARKS**

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**STRUCTURE**

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**ESSA**

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**STRUCTURE**

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**ESSA**

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**STRUCTURE**

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**ESSA**

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**ESSA**

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**ESSA**

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**MCQ - 40 MARKS**

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**STRUCTURE**

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**ESSA**

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**STRUCTURE**

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**ESSA**

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**MCQ - 40 MARKS**

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**STRUCTURE**

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**MCQ - 40 MARKS**

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**ESSA**

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**MCQ - 40 MARKS**

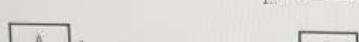
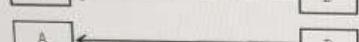
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Select the correct diagram to show the relationship of class A and class B, where all properties of class A are **Inherited** to class B.

Select one:

- a. 
- b. 
- c. 
- d. 
- e. None of the Above.



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**Question 13**  
Not yet answered  
Marked out of 1.00  
 Flag question

Select the correct coding for the given below relationship.

**Relationship Diagram:**

```

    graph LR
        Student[Student] -- "0..1" --> Enroll[Enroll]
        Enroll -- "1..* --- Subject[Subject]
    
```

Select one:

a. `#define SIZE 10  
class Student {  
private:  
<attributes>  
Subject s;  
  
public:  
<methods>  
};  
class Subject {  
private:  
<attributes>  
public:  
<methods>  
};`

b. `#define SIZE 10  
class Student {  
private:  
<attributes>  
Subject *sub[SIZE];`

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

51	52						
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FEEDBACK

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**DELL**

**Online Exams**  
Sri Lanka Institute of Information Technology

**Question 44**  
Not yet answered  
Marked out of 1.00  
 Flag question

"ikman.lk" is a popular website for retailers and property owners. In this website you can create your profile as a seller or a buyer. However, if you are a seller, you need to create advertisements for your goods/properties based on the category it belongs to. It can be a house, a vehicle, a mobile phone that belong to the categories of "Properties", "Automobiles" and "Electronic Items" respectively.

Based on the above scenario, If you are to convert the above application into objects and classes. Identify the relationship between "Mobile phone" and "Electronic Items" classes

Answer:

**Quiz navigation**

MCQ- 40 MARKS

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

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Moodle

Online Exams

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**Question 47**  
Not yet answered  
Marked out of 1.00  
Flag question

Write a simple C++ program with two classes to demonstrate the inheritance between "Employee" and "Parttime Employee"

```
Class Employee{
    Protected:
        <attribute>;
    Public:
        <method>;
};

Class ParttimeEmployee: public Employee{
    Private:
        <attribute> I;
    Public:
        <method>;
};
```

MCQ-40 MARKS

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

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Sri Lanka Institute of Information Technology

Consider the given scenario and write 5 CRC cards. You can identify 5 classes and use the template of the CRC card (Table) and fill the details necessary. ( Do not use TAB key to move to columns in the table as it may lead to next question in the exam ) - (20 marks)

"ABC" Television Corporation is a leading television channel in Sri Lanka. The management has decided to automate the activities of their advertising department. Advertising department mainly focus on advertisement scheduling. You have been hired as a system analyst to identify the requirements and to make an initial sketch of the proposed system.

The staff of the advertising department consists with a manager, an assistant manager, a secretary and several designers. Before taking advertisements, ABC Television Corporation signs a contract with the client.

When a new advertisement is received from a client or a client company, the secretary will log in to the system and check the terms of the client contract by client number. Then the details of the advertisement (This may include the length of the advertisement, time belt, payment, client name, client email etc) are entered in to the system. Since a new advertisement is available, secretary has to re-generate the advertisement schedule for the rest of the day. This schedule can be then printed and given to the telecasting unit. If the client contract is changed due to any circumstance, the relevant advertisement schedule is updating accordingly. this is again done by the secretary.

An assistant manager can log in to the system and can view the advertisements added on a given date. For any reason, if the initially assigned time belt for a particular advertisement should be changed, that can only be done by an assistant manager or a manager.

At the end of each week, the assistant manager can generate the weekly scheduling status report. It visualize the status of the advertisement in the previous week. Frequently reports can be generate per each advertisement, to view the telecasting frequency of a particular advertisement. The client report can be generate at any time to get the details of clients; profit gained by each clients and the client payments. All the reports can be generated either by assistant manager or manager.

Clients can pay for advertisements directly through credit cards. The system is linked with existing accounting module to handle the payment details. An email will be send to the client for confirmation of payment. This will again handle by the accounting module.

Class Name

MCQ-40 MARKS

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

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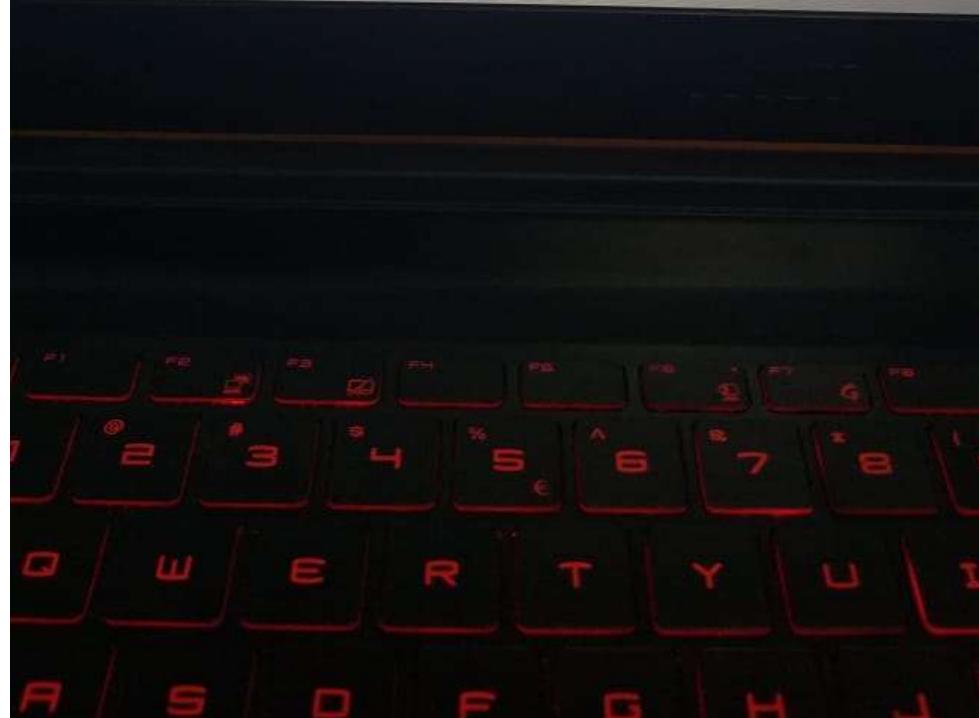
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Which of the following concepts indicates the capability of using object of one class inside another class?

Select one or more:

- a. Abstraction
- b. Composition
- c. Inheritance
- d. Encapsulation
- e. Association



48  
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out of  
question

There is a popular music app called Spotify. In this app there are playlists categorized based on their genre. Some of the main categories include Rock, Popular, Classical. Under these categories you can find different playlists. "90's rock" is a playlist found under Rock, "Hip-pop" is another playlist under popular music category.

Based on the above scenario. If you are to convert the above application into objects and classes. Identify the relationship between the classes of "Popular", "Hip-pop"?

Answer: Inheritance

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#### STRUCTURED - 20 MARKS

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#### ESSAY- 40 MARKS

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#### FEEDBACK

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Moodle

Report Chapter Chapter Header Chapter Footer

a. Report Chapter Chapter Header Chapter Footer

b. Report Chapter Chapter Header Chapter Footer

c. Report Chapter Chapter Header Chapter Footer

d. Report Chapter Chapter Header Chapter Footer

e. None of the above

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STRUCTURED - 20 MARKS  
41 42 43 44 45 46 47 48  
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ESSAY- 40 MARKS  
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FEEDBACK  
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Question 49  
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Flag question

Dream Motors is a company which imports and sells Brand-New and Re-conditioned motor vehicles. Identify class/classes from the given scenario.

Company, Motor Vehicles

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MCQ- 40 MARKS

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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Quiz navigation

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Question 17  
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Members which are intended to be inherited are declared as \_\_\_\_\_

Select one or more:

- a. private
- b. public
- c. protected
- d. pure virtual
- e. virtual

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There is a popular music app called Spotify. In this app there are playlists that contains a collection of songs categorized based on their genre. Some of the main categories include Rock, Popular, Classical. Under these categories you can find different playlists. "90's rock" is a playlist found under Rock, "Hip-pop" is another playlist under popular music category.

Based on the above scenario. If you are to convert the above application into objects and classes. Define the multiplicity between classes of "Playlist", "Song".

Answer:

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MCQ- 40 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

Moodle

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Question 40

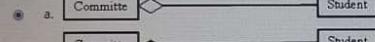
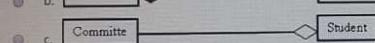
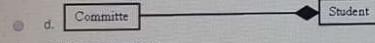
Not yet answered

Marked out of 1.00

Reg question

Select the most correct diagram to show the relationship of Committee class and Student class.

Select one:

- a. 
- b. 
- c. 
- d. 
- e. None of the above

Next page

MCQ- 40 MARKS

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40

STRUCTURED- 20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY- 40 MARKS

51	52						
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FEEDBACK

A system is designed to assign topics for assignment groups. Each group consist of 4 or 5 group members. Developers of the system have identified Topic class, Group class and GroupMember class as the classes in this system. Select the most correct relationship for Group class and GroupMember class.

Select one:

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

Quiz navig

MCQ- 40 MARKS

1	2	3
8	9	10
15	16	
22	23	
29	30	
36	37	
43		
		48

NEW PAGE

Question 14

Not yet answered

Marked out of  
1.00

Flag question

What is true about overloading and overriding among the following?

Select one:

- a.  
Overloading happens within the same class.
- b.  
Overriding can occur without inheritance.
- c.  
The function signature should be changed in overriding.
- d.  
All of the Above
- e. None of the Above

Online Exams

Sri Lanka Institute of Information Technology

42 answered out of 53 question

```
void assignDetails();
void assignDetails(int empNo);
void assignDetails(int empNo, float salary, int age);
```

Above mentioned method prototypes are included in **Employee** class implementation. After implementing Employee class, these methods are invoked(called) in the main program using **emp** static object.

Write down three function calling statements that needs to be written in main program to invoke these methods.

Hint: You can pass suitable values to these methods.

MCQ- 40 MARKS

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40

STRUCTURED - 20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY- 40 MARKS

51	52						
----	----	--	--	--	--	--	--

FEEDBACK

53

Question 16

Not yet answered

Marked out of 1.00

Flag question

```
Shape
+-- getArea()
    |
    +-- Rectangle
        |   length
        |   width
        |
        +-- Rectangle()
        +-- Rectangle(int, int)
        +-- getArea()
```

What is the best way to implement "getArea()" method in the Shape class?

Select one:

- a. As a virtual method
- b. As a pure virtual method
- c. As an overloaded method
- d. As a getter
- e. None of the above

MCQ- 40 MARKS

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40

STRUCTURED - 20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY- 40 MARKS

51	52						
----	----	--	--	--	--	--	--

FEEDBACK

53

Moodle

Online Exams

Sri Lanka Institute of Information Technology

Question 39  
Not yet answered  
Marked out of 1.00  
Flag question

What is the false statement among following?

Select one:

- a. Function overloading means define multiple functions with the same name inside the same class.
- b. Overloaded function must differ in their order and types of arguments.
- c. Overloaded functions should be preceded with virtual keyword
- d. No statement is false
- e. All statements are false

Next page

MCQ-40 MARKS

1	2	3	4	5	6	7	8
9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	32
33	34	35	36	37	38	39	40

STRUCTURED-20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY-40 MARKS

51	52
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FEEDBACK

MCQ

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Select one:

- a. It is base class it is derived class
- b. It is base class It is derived class
- c. It is derived class  
It is base class
- d. It is derived class it is base class
- e. Error in code

If same message is passed to objects of several different classes and all those can respond in different way, what is this feature called?

Select one:

- a. Inheritance
- b. Overriding
- c. Overloading
- d. Polymorphism
- e. Encapsulation

Next page

≡ Quiz na

MCQ-40 MAR

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SLIIT Online Exams

Sri Lanka Institute of Information Technology

Question 45  
Not yet answered  
Marked out of 1.00  
Flag question

Customers can pay for a purchase using different types of payment methods. A payment clerk enters the payment details into the system. Identify the class/classes from the above statements.

A. Customer  
B. Payment  
C. Payment clerk

SLIIT Online Exams

Sri Lanka Institute of Information Technology

Question 31  
Not yet answered  
Marked out of 1.00  
Flag question

Select the correct statement/statements.

Select one or more:

- a. Association may also correspond to the relation between instances between three or more classes.
- b. Association labels may be labeled by showing the association name or be unlabeled.
- c. The multiplicity at the target class end of an association is the number of instances that can be associated with a single instance of source class.
- d. Only A and B
- e. Only A and C

Quiz navigation

MCQ - 40 MARKS									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
29	30	31	32	33	34	35	36	37	38
STRUCTURE - 20 MARKS									
39	40	41	42	43	44	45	46	47	48
49	50	51	52	53	54	55	56	57	58

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Marked out of 1.00

Flag question

Quiz navigation

MCD - 40 MATHS

1 2 3 4 5  
6 7 8 9 10 11 12  
13 14 15 16 17 18 19  
20 21 22 23 24 25 26  
27 28 29 30 31 32 33  
34 35 36 37 38 39 40  
STRUCTURED - 20 QUESTIONS  
41 42 43 44  
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97 98 99 100

statement about the following figure given below.

Select one:

- a. One object of Z must be associated with exactly with 3 objects of A.
- b. Three objects of A are associated with multiple objects of Y.
- c. There are no direct instances of X.
- d. One objects of A must be associated with multiple objects of Y.
- e. Three objects of X are associated with multiple objects of A.

**Question 22**  
Not yet answered  
Marked out of 1.00  
 Flag question

What is the output of the following program?

```
class person
{
    public :
    int marks;
    void disp()
    {
        cout<<"It is base class";
    }
};

class employee:public person
{
    public :
    void disp()
    {
        cout<<"It is derived class";
    }
};

int main()
{
    person p;
    employee e;
    p.disp();
    e.disp();
}
```

Select one:

a. It is base class it is derived class

b. It is derived class

Quiz navigation

MCQ-40 MARKS
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31 32 33 34 35
36 37 38 39 40

STRUCTURED-20 MARKS
41 42 43 44 45 46 47
48 49 50

ESSAY-40 MARKS
51 52

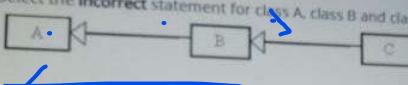
FEEDBACK

53

**SLIIT Online Exams**  
Sri Lanka Institute of Information Technology

**Question 37**  
Not yet answered  
Marked out of 1.00  
 Flag question

Select the **incorrect** statement for class A, class B and class C given below.



Select one:

a. Specialization takes place from class B to class A.  
 b. Generalization takes place from class C to class B.  
 c. Specialization takes place from class A to class C.  
 d. Generalization takes place from class B to class A.  
 e. None of the Above

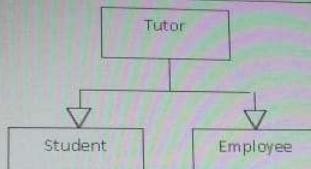
**Quiz navigation**

MCD-43 MARKS	1	2	3	4	5
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Sri Lanka Institute of Information Technology

**Question 40**  
Not yet answered  
Marked out of 1.00  
 Flag question



What is correct about the above diagram ?

Select one:

a. Tutor is the super class of Student and Employee.  
 b. Student and Employee classes are derived from Tutor.  
 c. Student and Employee classes have common properties.  
 d. Tutor is a Student as well as an Employee.  
 e. None of the above

**Sri Lanka Institute of Information Technology**

Question 34  
Not yet answered  
Marked out of 1.00

Which kind of relationship is represented by Association?

Select one:

- a. Is-A relationship
- b. Part-of relationship
- c. Has-A relationship
- d. Is A Kind of a Relationship
- e. None of the above

Quiz navigation  
MCQ-40 MARKS

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**Sri Lanka Institute of Information Technology**

Question 44  
Not yet answered  
Marked out of 1.00

"ikman.lk" is a popular website for retailers and property owners. In this website you can create your profile as a seller or a buyer. However, if you are a seller, you need to create advertisements for your goods/properties based on the category it belongs to. It can be a house, a vehicle, a mobile phone that can belong to the categories of "Properties", "Automobiles" and "Electronic items" respectively.

Based on the above scenario. If you are to convert the above application into objects and classes. Identify the multiplicity between "Seller" and "Buyer" classes.

Quiz navigation  
MCQ-40 MARKS

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17	18	19	20
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33	34	35	36
37	38	39	40

STRUCTURED-2

41	42	43
44	45	46
47	48	49
50	51	52

ESSAY-40 MAR

51	52
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**Question 41**  
Not yet answered  
Marked out of 1.00  
[Flag question](#)

Implement the main method to get the given output.

**PROGRAM:**

```
#include <iostream>
using namespace std;

class Parent
{
public:
    int id_p;
};

class Child : public Parent
{
public:
    int id_c;
};

int main()
{
```

**OUTPUT:**

100

**Quiz navigation**

MCQ: 40 MARKS						
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STRUCTURED: 20 MARKS						
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ESSAY: 40 MARKS						
51	52					
Activity Windows						
Feedback						

**Online Exams**  
**Sri Lanka Institute of Information Technology**

**Question 39**  
Not yet answered  
Marked out of 0.00  
[Flag question](#)

Which of the following statement is TRUE about composition?

Select one:

- a. Compositions are typically implemented via normal member variables, or by pointers where the class manages all the memory allocation and de-allocation.
- b. Exists when a member of a class has a part-of relationship with the class.
- c. The class manages the existence of the members.
- d. All of the above
- e. None of the above



[Next Question](#)

Which of the following term is best defined by the following statement?  
"A structural relationship that specifies that objects of one thing are connected to objects of others"

Select one:

- a. Aggregation
- b. Association
- c. Inheritance
- d. Dependency
- e. None of the above

☰ Quiz navigation

MCQ: 40 MARKS

1 2 3

8 9 10

15 16 17

22 23

29 30

35 36

41

Next page

Question 28

yet answered  
marked out of 1

Flag question

Which of the following term is best defined by the following statement?

"A structural relationship that specifies that objects of one thing are connected to objects of others"

Select one:

- a. Aggregation
- b. Association
- c. Inheritance
- d. Dependency
- e. None of the above

☰ Quiz navigation

MCQ: 40 MARKS

1 2

8 9

15 16

22 23

29 30

36 37

Next page

 **Online Exams**  
Sri Lanka Institute of Information Technology

Customers can pay for a purchase using different types of payment methods. A payment clerk enters the payment details into the system. Identify the **class/classes** from the above statements.

I

Next page

Quiz navigation

MCG-40 MARKS

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36	37	38	39	40		

Sri Lanka Institute of Information Technology

**Question 36**  
Not yet answered  
Marked out of 1.00  
 Flag question

The CRC method will be used to

I. Identify classes  
II. Identify the responsibilities of the classes  
III. Identify collaborators of each class  
IV. Developing use case diagrams

Correct statement/s is/are,

Select one or more:

a. I and II  
 b. I, II and III  
 c. II and III  
 d. I, II, III and IV  
 e. None of the above

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Quiz navigation

MCG-40 MARKS

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36	37	38	39	40		



## Online Exams

Sri Lanka Institute of Information Technology

Question 32

Not yet answered

Marked out of

1.00

Flag question

What is the correct type of relationships are represented by the symbols in the figure given below?



- A. Composition  
B. Aggregation  
C. Inheritance  
D. Association

- Aggregation  
Composition  
Association  
Inheritance

Select one:

- a. A  
 b. B  
 c. C  
 d. D  
 e. All are wrong.

### Quiz navigation

MCG- 40 MARKS

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STRUCTURE- 20 MARKS

41	42	43	44	45	46	47
48	49	50				

### Quiz navigation

MCG- 40 MARKS

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STRUCTURE- 20 MARKS

41	42	43	44	45	46	47
48	49	50				

ESSAY- 40 MARKS

51	52
53	

FEEDBACK

Question 26

Not yet answered

Marked out of

1.00

Flag question

Select the correct UML notation for the class given in C++ code below.

```
class Patient {  
private:  
    int id;  
    int age;  
public:  
    void setDetails(int a, int i);  
    int getAge();  
    int getId();  
};
```

Select one:

a.

b.

c.  d.  e. None of the above are correct.

f.



## Question 35

Not yet answered  
Marked out of 1.00

Flag question

Which of the following term is best defined by the following statement?

"A process in which one object acquires all the properties and behaviors of its parent object automatically"

Select one:

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

## Quiz navigation

MCQ - 40 MARKS

QUESTION	ANSWER	MARKS
Q1	A	1
Q2	B	1
Q3	C	1
Q4	D	1
Q5	E	1
Q6	F	1
Q7	G	1
Q8	H	1
Q9	I	1
Q10	J	1
Q11	K	1
Q12	L	1
Q13	M	1
Q14	N	1
Q15	O	1
Q16	P	1
Q17	Q	1
Q18	R	1
Q19	S	1
Q20	T	1
Q21	U	1
Q22	V	1
Q23	W	1
Q24	X	1
Q25	Y	1
Q26	Z	1
Q27	A	1
Q28	B	1
Q29	C	1
Q30	D	1
Q31	E	1
Q32	F	1
Q33	G	1
Q34	H	1
Q35	I	1
Q36	J	1
Q37	K	1
Q38	L	1
Q39	M	1
Q40	N	1

Next page

## OUTPUT:

```
> ./main
Child id is 7
Parent id is 91
?
```

```
cout<<"\nChild id is "<<id_c<<endl;
cout<<"\nParent id is "<<id_p<<endl;
```

Child C
Parent P
c. t -> 7

 Sri Lanka Institute of Information Technology

**Question 33**  
Not yet answered  
Marked out of 1.00  
 Flag question

Which public method cannot be inherited to the child class from parent class?

Select one:

- a. Constructor
- b. Destructor
- c. overloaded methods
- d. Both (a) and (b)
- e. None of the above

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**Quiz navigation**

MCQ-40 MARKS					
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STRUCTURED-20 MARKS					
41	42	43	44	45	
46	47	48	49	50	

 Sri Lanka Institute of Information Technology

**Question 38**  
Not yet answered  
Marked out of 1.00  
 Flag question

Which of the following relationships indicates that objects of specific class can occur independently?

Select one or more:

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

[Next page](#)

**Quiz navigation**

MCQ-40 MARKS					
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STRUCTURED-20 MARKS					
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**SLIIT Online Exams**  
Sri Lanka Institute of Information Technology

Question 34

According to the diagram shown below, what is the relationship between "Person" and "Vehicle"?

```
classDiagram
    class Person {
        +Name
    }
    class Vehicle {
        +Model
        +RegistrationNo
    }
    class Manufacturer {
        +Name
        +Country
    }
    Person "1..*" --> "1..*" Vehicle : B..*
    Vehicle "1..*" --> "1..*" Manufacturer : +Model
```

Select one:

- a. Aggregation
- b. Two way Association
- c. One way Association
- d. Dependency
- e. Composition

Quiz navigation

MCQ-1	MCQ-2	MCQ-3	MCQ-4	MCQ-5	MCQ-6	MCQ-7	MCQ-8	MCQ-9	MCQ-10	MCQ-11	MCQ-12	MCQ-13	MCQ-14	MCQ-15	MCQ-16	MCQ-17	MCQ-18	MCQ-19	MCQ-20	MCQ-21	MCQ-22	MCQ-23	MCQ-24	MCQ-25	MCQ-26	MCQ-27	MCQ-28	MCQ-29	MCQ-30	MCQ-31	MCQ-32	MCQ-33	MCQ-34	MCQ-35	MCQ-36	MCQ-37	MCQ-38	MCQ-39	MCQ-40
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Question 35

Not yet answered  
Marked out of 1.00  
Flag question

Which of the following term is best defined by the following statement?  
"A process in which one object acquires all the properties and behaviors of its parent object automatically"

Select one:

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

Quiz navigation

MCQ-1	MCQ-2	MCQ-3	MCQ-4	MCQ-5	MCQ-6	MCQ-7	MCQ-8	MCQ-9	MCQ-10	MCQ-11	MCQ-12	MCQ-13	MCQ-14	MCQ-15	MCQ-16	MCQ-17	MCQ-18	MCQ-19	MCQ-20	MCQ-21	MCQ-22	MCQ-23	MCQ-24	MCQ-25	MCQ-26	MCQ-27	MCQ-28	MCQ-29	MCQ-30	MCQ-31	MCQ-32	MCQ-33	MCQ-34	MCQ-35	MCQ-36	MCQ-37	MCQ-38	MCQ-39	MCQ-40
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**SLIIT**

# Online Exams

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27  
answered  
out of  
question

MCQ-40 MARKS

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STRUCTURED- 20 MARKS

41	42	43	44	45	46	47
48	49	50				

ESSAY- 40 MARKS

51	52
----	----

FEEDBACK

53
----

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attributes/functions are inaccessible to the child classes from the parent classes.

Select one:

- a. private
- b. public
- c. protected
- d. both (a) and (c)
- e. both (b) and (c)

int id\_p;

```
class Child : public Parent {  
public:  
    int id_c;  
  
    int main()  
    {  
        cout << id_p;  
        cout << id_c;  
    }  
};
```

OUTPUT:

```
> ./main  
Child id is 7  
Parent id is 91  
>
```

A toolbar with icons for file operations, text styling (A, I, B), and other functions.

Finish attempt...  
Time left 0:57:14  
Activate Windows  
Go to Home

A polymorphic function

Select one:

- a. has same name
- b. has same name but uses different parameters
- c. has same name but uses different methods depending on the class
- d. uses different methods to perform on the same class
- e. All of the above

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MCQ-40 MARKS

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STRUCTURE 20 MARKS

41	42	43	44
45	46	47	48

Sri Lanka Institute of Information Technology

Question 43  
Not yet answered  
Marked out of 1.00  
Flag question

A chat box in a chat system should keep new and old chats. Also the chat box should manage the automatic greetings as well. Identify the **class/classes** and **responsibility/responsibilities** for each class from the above scenario.

Chat box diagram:

<b>Chat</b>	<b>Chat</b>
<b>Responsibility</b>	<b>Collaboration</b>
store new and old chat data	an
Manage automatic greetings	Gret

Next page

MCQ-40 MARKS

1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38
39	40

```
15 public:
16     Test1 t1;
17     void show()
18     { cout << "\n Number = "<< t1.get(); }
19 }
20
21 int main()
22 {
23     t1;
24 }
25
```

Output:

```
Number = 100
```

Question 50  
Not yet answered  
Marked out of 10  
Flag question

Computer Science or Information Technology

Add the 3 lines of code to get the given output.

Program :

```
#include <iostream>
using namespace std;
class Address {
public:
    string city, state;
    Address(string city, string state)
    {
        this->city = city; this->state = state;
    }
};
class Employee
{
private:
    //PART A - Employee HAS-A Address
    public:
    string name;
    Employee(string name, Address* address)
    {
        this->name = name;
        this->address = address;
    }
    void display()
    { cout<<name<< " "<<address->city<< " "<<address->state<<endl; }
};

int main(void)
{
    //PART B - Add the address as city=>"Noida" and state=>"UP"
    //PART C - Create the Employee with the above address and name=>"Kamal"
    e1.display();
    return 0;
}
```

Answer ad.

Quiz navigation

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36	37	38	39	40		
41	42	43	44	45	46	
48	49	50				

ESSAY-40 MARKS  
51 52

FEEDBACK  
53

Finish attempt..

Time left 1:08:49

Class Name	order
Responsibilities	Collaborations
<u>store order details</u>	

Class Name	waiter
Responsibilities	Collaborations
confirm orders	
delete orders	order,ingredients

Class Name	ingredients
Responsibilities	Collaborations
check availability	
check progress	

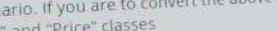
Class Name	payment
Responsibilities	Collaborations
handle payments	
table	

Class Name	table
Responsibilities	Collaborations
assign waiters	
waiter	



"ikman.lk" is a popular website for retailers and property owners. In this website you can create your profile as a seller or a buyer. However, if you are a seller, you need to create advertisements for your goods/properties based on the category it belongs to. It can be a house, a vehicle, a mobile phone that can belong to the categories of "Properties", "Automobiles" and "Electronic items" respectively.

Based on the above scenario, if you are to convert the above application into objects and classes, Identify the relationship between "Advertisement" and "Price" classes



Answer: Association

*Answer -*

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Online Exams

Sri Lanka Institute of Information Technology

Question 2  
Not yet answered  
Marked out of 1.00  
Flag question

Given a description of a problem potential behaviors are identified by selecting

Select one:

a. verb phrases in the statement  
 b. noun phrases in the statement  
 c. adjectives in the statement  
 d. adverbs in the statement



## Online Exams

Sri Lanka Institute of Information Technology

Question 1

Not yet answered

Marked out of  
1.00

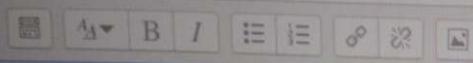
Flag question

What are the sections in CRC cards ?

Select one:

- a. Class name, Attributes & Methods
- b. Class name, Relationships & Collections
- c. Class name , Responsibilities & Collaborations
- d. Class name, Relationships & Collaborations

Next p



class name	student
Responsibilities	Collaborations
1. provide personal details	
2. keep list of students	
3. display list of student	

class name	record
Responsibilities	Collaborations
1. records student details	student

class name	staff member
Responsibilities	Collaborations
1. record marks	
2. record assignment details	

Sri Lanka Institute of Information Technology

Write 3 advantages of inheriting the characteristics from parent classes.

1) Reusability  
2) Readability  
3) One class properties and behaviours inherits by another class

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MCQ - 40 MARKS

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STRUCTURED - 20 MARKS

41	42	43	44	45	46
49	50				

ESSAY - 40 MARKS

51	52				
----	----	--	--	--	--

FEEDBACK

53
----

Finish attempt...  
Time left 1:16:37

Sri Lanka Institute of Information Technology

Question 51  
Not yet answered  
Marked out of 1.00  
Flag question

*Student-  
Course-  
Subject-  
Admin.  
5th*

Consider the given scenario and write 5 CRC cards. You can identify 5 classes and use the template of the CRC card (Table ) and fill the details necessary. (Do not use TAB key to move to columns in the table as it may lead to next question in the exam ) - ( 20 marks )

To initially enroll at the university, the student provides their personal details ( name, address, gender, date of birth ), along with the code of the course ( eg: Bachelor of Computer Science ) in which to enroll. A student record is created, and a unique student ID number is issued to the student. The system automatically enrolls the student to the compulsory first year subjects for the course. When a student wants to enroll in a new subject, the student provides their student ID number and the subject code of the subject in which they wish to enroll. The system checks that the subject requested by the student is allowed for the course, in which the student is enrolled. If not, the enrollment request is rejected. The system checks what subjects ( if any ) are specified as prerequisites for the subject in which the student wishes to enroll. If the student has passed all the prerequisite subjects, they are enrolled in their desired subjects. Otherwise, the enrollment request is rejected. A staff member can record a mark for student by accessing the system. He / she has to give a subject code and a password for that subject. If the password is correct, the system displays the list of students enrolled in the subject to the staff member. The staff member can then specify a mark for any student on the list. When a new subject is introduced in the university curriculum, the administrator can access the system using a password and choose a subject code for the new subject. The system checks that this code is not already in use in the system, and if not, it creates a new subject record. The administrator then gives the subject name, the year of the course in which it may first be taken, a flag indicating whether or not it is a core subject and the codes of any prerequisites subjects. To print a transcript of a student's results, an administrator has to access the system using a password. He then gives the student ID number of the student for whom the transcript is to be generated. The system checks the student's record and then creates a transcript showing all the subjects in which the student has been enrolled in each year and the mark for each subject. The transcript is formatted so that the header of the transcript shows the student's personal details and the course in which he or she is enrolled. Then the transcript can be saved and printed.

Quiz navigation

MCQ - 40 MARKS

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36	37	38	39	40		

STRUCTURED - 20 MARKS

41	42	43	44	45	46
49	50				

ESSAY - 40 MARKS

51	52				
----	----	--	--	--	--

**SLII** Online Exams  
Sri Lanka Institute of Information Technology

tion 47  
et answered  
ed out of  
ag question

A chat box in a chat system should keep new and old chats. Also the chat box should manage the automatic greetings as well. Identify the **class/classes and responsibility/responsibilities** for each class from the above scenario.

1 2 3 4  
5 6 7 8  
9 10 11 12  
13 14 15 16  
17 18 19 20  
21 22 23 24  
25 26 27 28  
29 30 31 32  
33 34 35 36  
37 38 39 40  
STRUCTURES-20 21 22  
41 42 43 44

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file x

x C | i | A

 Online Exams

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1 answered  
out of  
question

What are the sections in CRC cards ?

Select one:

- a. Class name, Attributes & Methods
- b. Class name, Relationships & Collections
- c. Class name, Responsibilities & Collaborations
- d. Class name, Relationships & Collaborations

Output:

```
Number = 100
```

Address(string city, string state)  
{  
 this->city = city; this->state = state;  
}  
};  
class Employee  
{  
private:  
 //PART A - Employee HAS-A Address  
public:  
 string name;  
 Employee(string name, Address\* address)  
 {  
 this->name = name;  
 this->address = address;  
 }  
 void display()  
 { cout<<name<< " "<<address->city<< " "<<address->state<<endl; }  
};  
int main(void) {  
 //PART B - Add the address as city=>"Noida" and state=>"UP"  
 //PART C - Create the Employee with the above address and name=>"Kamal"  
 e1.display();  
 return 0;  
}  
  
output:  
\$ clang++-7 -pthread -std=c++17 -o main main.cpp  
\$ ./main  
Kamal Noida UP

**Online Exams**  
**Sri Lanka Institute of Information Technology**

"ikman.lk" is a popular website for retailers and property owners. In this website you can create your profile as a seller or a buyer. However, if you are a seller, you need to create advertisements for your goods/properties based on the category it belongs to. It can be a house, a vehicle, a mobile phone that can belong to the categories of "Properties", "Automobiles" and "Electronic items" respectively.

Based on the above scenario, If you are to convert the above application into objects and classes. Identify the relationship between "Advertisement" and "Price" classes

Answer:

[Next page](#)

**MCQ- 40 MARKS**

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**Quiz navigation**

**Online Exams**  
**Sri Lanka Institute of Information Technology**

There is a popular music app called Spotify. In this app there are playlists that contains a collection of songs categorized based on their genre. Some of the main categories include Rock, Popular, Classical. Under these categories you can find different playlists. "90's rock" is a playlist found under Rock. "Hip-pop" is another playlist under popular music category.

Based on the above scenario, If you are to convert the above application into objects and classes. Identify the relationship between the classes of "Song", "Lyrics".

Answer:  Inheritance

*Composition*

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**MCQ- 40 MARKS**

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**STRUCTURED- 20 MARKS**

41	42	43	44
49	50		

**ESSAY- 40 MARKS**

51	52
----	----

**Feedback**

```
class Address {
public:
    string name;
    string address;
};

void display()
{
    cout << name << endl
        << address << endl
        << "City: " << city << endl
        << "State: " << state << endl;
}

int main(void) {
    //PART A - Create an Address object
    Address ad;
    ad.name = "Kamal";
    ad.address = "Noida, UP";
    ad.city = "Noida";
    ad.state = "UP";

    //PART B - Add the address as city=>"Noida" and state=>"UP"
    Address add1("Noida", "UP");
    cout << add1;

    //PART C - Create the Employee with the above address and name=>"Kamal"
    Employee emp("Kamal");
    emp.display();
    return 0;
}
```

output:

```
> clang++-7 -pthread -std=c++17 -o main main.cpp
> ./main
Kamal Noida UP
>
```

SLIIT Online Exams

Sri Lanka Institute of Information Technology

Properties and behaviors of the lecturers are grouped in a classed named as Lecturer. What is the object-oriented principle applied here?

Answer: Encapsulation

Quiz navigation

Record assignment details	
Class Name	Subject
Responsibilities	Collaborations
1. keep list of subjects	
2. enroll subject	
3. give subject code	student
4. create new record	

Class Name	Transcript
Responsibilities	Collaborations
1. generate transcript	
2. save transcript	staff member
3. print transcript	student

**SLIIT Online Exams**  
Sri Lanka Institute of Information Technology

**Question 49**  
Not yet answered  
Marked out of 1.00  
Flag question

Implement the main method to get the given output.

Program:

```

1 #include <iostream>
2 using namespace std;
3
4 class Test1 {
5 private:
6     int num;
7 public:
8     void set(int i)
9     { num = i; }
10    int get()
11    { return num; }
12 };
13
14 class Test2 {
15 public:
16     Test1 t1;
17     void show()
18     { cout << "\n Number = " << t1.get(); }
19 };
20
21 int main()
22 {
23 }
24
25

```

**Quiz navigation**

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
26	27	28	29	30	31
33	34	35	36	37	38
39	40	41	42	43	44
45	46	47	48	49	50

MCQ-40 MARKS

STRUCTURED-10 MARKS

**Sri Lanka Institute of Information Technology**

48 unanswered part of question

Write 3 advantages of inheriting the characteristics from parent classes.

Quiz navigation

MCQ-40 MARKS				
1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30
31	32	33	34	35
36	37	38	39	40

**Sri Lanka Institute of Information Technology**

**Question 52**  
Not yet answered  
Marked out of 1.00  
Flag question

Read the following description and write the coding of 5 classes you have identified using a class diagram. You need not upload or / draw the class diagram here. You have to only write the coding of the classes showing the relationships clearly. You need not write all methods of the classes or the attributes. You may need to include the necessary methods and the attributes only to show the correct relationships between the classes. ( Do not use the TAB key while you type in the answer box as it may go to next Question ) - (20 marks)

An Online bookshop sells different things. Currently it has books, magazines and CDs. All these products have some common types of information such as price, title etc.. Also each product may have specific information such as author, number of pages, artists, type etc.. ).  
The registered customers can place orders for products. The ordered products are usually delivered together, but sometimes several shipments are needed when the store runs out of products for a while. An order may contain several products.  
The products are delivered to personal customers and payments are done at the delivery. The business customers will get their orders directly and they will be sent an invoice afterwards. Both customer types can make the payment also by using credit card. When registering, a customer is prompted to give contact and personal information needed for authentication, delivery of orders and invoicing.  
The bookshop system must be able to add and remove customers, add new products and view/ update existing products, make or remove orders and view existing orders, view and generate reports on the products.

Quiz navigation

MCQ-40 MARKS					
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30
31	32	33	34	35	36
37	38	39	40		

**Report**

```

graph TD
    Report --> Product
    Report --> P_Cus
    Product -- M --> Order
    Product -- G..I --> Inv
    P_Cus --> Order
    Order -- G..I --> Inv
  
```

**Product**

**P\_Cus**

**Order**

**Inv**



## Online Exams

Sri Lanka Institute of Information Technology

-6  
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There is a popular music app called Spotify. In this app there are playlists that contains a collection of songs categorized based on their genre. Some of the main categories include Rock, Popular, Classical. Under these categories you can find different playlists. "90's rock" is a playlist found under Rock, "Hip-pop" is another playlist under popular music category.

Based on the above scenario. If you are to convert the above application into objects and classes. Identify the relationship between the classes of "Song", "Lyrics"?

Answer: **Composition**

[Next page](#)

### Quiz navigation

MCQ-40 MARKS

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40		

STRUCTURED MARKS

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

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# Online Exams

Sri Lanka Institute of Information Technology

Question 14  
Not yet answered  
Marked out of 10  
Flag question

What is Inheritance?

Select one:

- a. Overloading of classes
- b. Classes with same names
- c. Derive new classes from existing classes
- d. Wrap data into one class.

Online Exams

Sri Lanka Institute of Information Technology

5  
Answered  
of  
Question

What type of relationships are represented by the symbols in the figure given below?



A.	Composition	Aggregation
B.	Aggregation	Composition
C.	Inheritance	Aggregation
D.	Association	Inheritance

Select one:

a. A

\* b. B

c. C

d. D

e X

Back | Forward | Stop | Refresh

# Online Exams

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Given a description of a problem potential objects are identified by selecting

Select one:

- a. verb phrases in the statement
- b. noun phrases in the statement
- c. adjectives in the statement
- d. adverbs in the statement

Following class is given

```
Book  
int bookID;  
char bookName[50];  
Book(int bid, char *bName);  
void print();
```

What is the correct coding for creating an object of the book class dynamically?

Select one:

- a. book \*b1 = new Book(1001, "Object Oriented Concepts");
- b. Book \*b1 = new Book(1001, "Object Oriented Concepts");
- c. book \*b1 = new Book();
- d. Book b1 = new Book();

Moodle

← → × C | i | D

 Online Exams  
Sri Lanka Institute of Information Technology

Question 3  
Not yet answered  
Marked out of 1.00  
[Flag question](#)

OOA and OOD uses

Select one:

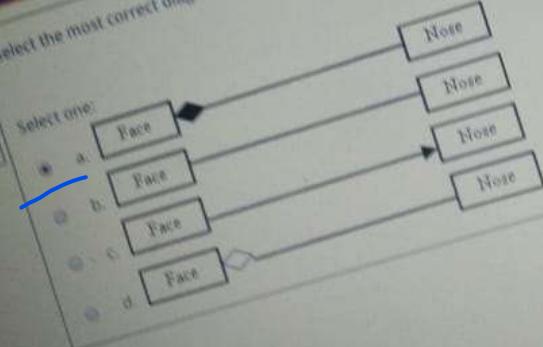
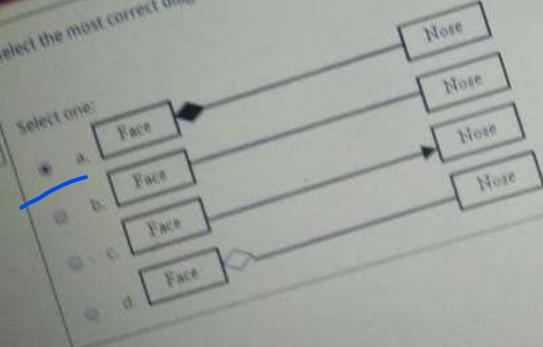
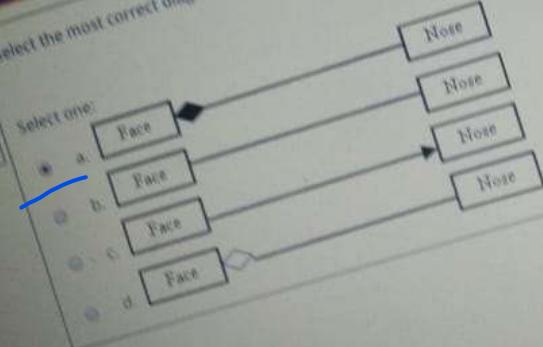
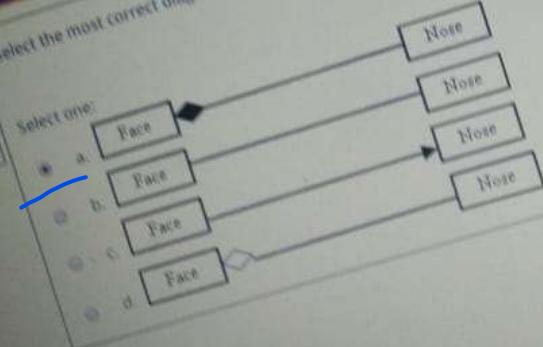
- a. Flow charts
- b. Algorithms
- c. CRC cards
- d. All of the above

# Online Exams

Sri Lanka Institute of Information Technology

Select the most correct diagram to show the relationship of Face class and Nose class.

Select one:

- a.   
Face → Nose  
Face → Nose  
Face → Nose
- b.   
Face → Nose
- c.   
Face → Nose
- d.   
Face → Nose  
Face → Nose  
Face → Nose



## Online Exams

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Question 2

Not answered  
Part of

Flag question

A correct list of responsibilities of an Online Order System is:

Select one:

- a. Add New Item, Restock, Update Items
- b. Order Form, Add New Item, Customer Details Form
- c. Order Form, Customer Details Form, Supplier
- d. Add New Items, update items, Item



## Online Exams

Sri Lanka Institute of Information Technology

Which of the following C++ statements can be used to remove a dynamic object from the memory.

Select one:

- a. new
- b. free
- c. delete
- d. destructor

 Online Exams  
Sri Lanka Institute of Information Technology

**Question 4**  
Not yet answered  
Marked out of 1.00  
 Flag question

What is incorrect about CRC Cards

Select one:

- a. Responsibilities relate to actions described in requirements
- b. Collaborations determine what other classes the objects interact with
- c. Responsibilities are the list of properties in the class
- d. Collaborations can be identified by studying the responsibilities

 Online Exams  
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**Question 6**  
Not yet answered  
Marked out of 1.00  
 Flag question

Find the incorrect way of creating an object from a class called "vehicle"

Select one:

- a. vehicle \*v;  
v = new vehicle();
- b. vehicle \*v = new vehicle();
- c. vehicle v;
- d. vehicle \*v = vehicle();

# Online Exams

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Which statement is TRUE about the Aggregation?

Select one:

- a. The class manages the existence of the members.
- b. Implemented via pointers.
- c. Implemented only through normal member variables
- d. It's the strongest "part-of" relationship between classes
- e. None of the above

Moodle

Online Exams

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Question 45

Not yet answered.

Marked out of 1.00

Flag question

There is a popular music app called Spotify. In this app there are playlists that contains a collection of songs categorized based on their genre. Some of the main categories include Rock, Popular, Classical. Under these categories you can find different playlists. "90's rock" is a playlist found under Rock. "Hip-pop" is another playlist under popular music category.

Based on the above scenario. If you are to convert the above application into objects and classes. Among the classes of "Song", "Genre". Identify which of these classes are dependent classes and which of these classes are associated classes.

Next page

MCQ- 40 MARKS

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33	34	35	36	37	38	39	40

STRUCTURED- 20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY- 40 MARKS

51	52
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FEEDBACK

53
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The screenshot shows a Moodle-based online exam interface. At the top, it says "Online Exams" and "Sri Lanka Institute of Information Technology". On the left, a question is displayed: "Question 45" (Not yet answered, Marked out of 1.00, Flag question). The question text describes Spotify playlists and their categorization. Below the question is a large text input area with a toolbar. To the right, there is a "Quiz navigation" section with three main categories: "MCQ- 40 MARKS", "STRUCTURED- 20 MARKS", and "ESSAY- 40 MARKS". Each category has a grid of numbered boxes. The "MCQ" grid has 8 rows and 8 columns, with numbers 1 through 40. The "STRUCTURED" grid has 2 rows and 8 columns, with numbers 41 through 48. The "ESSAY" grid has 2 rows and 2 columns, with numbers 51 and 52. Below these grids are "FEEDBACK" sections with numbered boxes (53 for MCQ, S1 and S2 for Structured, and 53 for Essay).