

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.

MCQ - 40 MARKS

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STRUCTURED - 20 MARKS

41	42	43	44	45
48	49	50		

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Question 15
Not yet answered
Marked out of 1.00
Flag question

Person Vehicle Manufacturer

+Name:	1	+Model:	1..*	+Name:
	0..*	+RegistrationNo:		+Country

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.

MCQ - 40 MARKS

1	2	3	4	5	6	7	8
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STRUCTURED - 20 MARKS

41	42	43	44	45	46	47	48
49	50						

ESSAY - 40 MARKS

51	52
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FEEDBACK

53

DELL

Question 18
Not yet answered
Marked out of 1.00
 Flag question

```

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

What is the relationship shown in the above diagram ?

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.

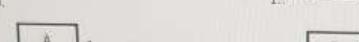
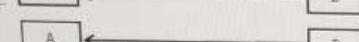
class name
Responsibilities Collaborations

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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];`

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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DELL

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Question 44
Not yet answered
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 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

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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

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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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9	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
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STRUCTURED - 20 MARKS

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ESSAY- 40 MARKS

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FEEDBACK

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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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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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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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Quiz navigation

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ESSAY- 40 MARKS

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FEEDBACK

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Moodle

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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

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

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51 52

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Moodle

Online Exams

Sri Lanka Institute of Information Technology

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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FEEDBACK

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Quiz navigation

Sri Lanka Institute of Information Technology

Question 17
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Flag question

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

NEXT PAGE

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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. Define the multiplicity between classes of "Playlist", "Song".

Answer:

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ESSAY- 40 MARKS

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FEEDBACK

Moodle

Online Exams

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Question 40

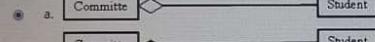
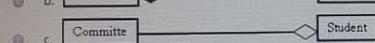
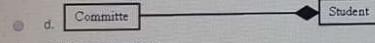
Not yet answered

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

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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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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

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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

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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

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ESSAY- 40 MARKS

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FEEDBACK

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Question 16

Not yet answered

Marked out of 1.00

Flag question

```
Shape
+-- getArea()

class Rectangle : Shape
{
    int length;
    int width;

    Rectangle();
    Rectangle(int l, int w);
    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

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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 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

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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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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

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MCQ-40 MAR	
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SLIT

Online Exams

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tion 45
yet answered
ed out of
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.

Customer
payment
payment clerk

SLIT

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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
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29 30 31 32 33 34 35
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STRUCTURE-20 MARKS
41 42 43 44 45 46 47
48 49 50

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Marked out of 1.00

Flag question

What is the statement about the following figure given below.

```

classDiagram
    class X
    class A
    class Y
    class Z
    X "3" --> A
    A "3" --> Y
    A "3" --> Z
    Y "3" --> Z
  
```

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 X.
- 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.

Quiz navigation

MCQ-10 MARKS							
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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							
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49	50	51	52	53	54	55	56
ESSAY-10 MARKS							
57	58	59	60	61	62	63	64
FEEDBACK							

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 it is base class

Quiz navigation

MCQ-10 MARKS							
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STRUCTURED-20 MARKS							
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ESSAY-10 MARKS							
57	58	59	60	61	62	63	64
FEEDBACK							

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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.

```
graph LR; A[A] --> B[B]; B[B] --> C[C]
```

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

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Quiz navigation
MCQ-40 MARKS

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STANDARDIZED MCQ MARKS

41	42	43	44
45	46	47	48
49	50		

Sri Lanka Institute of Information Technology

Question 40
Not yet answered
Marked out of 1.00
 Flag question

```
graph TD; Tutor[Tutor] --> Student[Student]; Tutor[Tutor] --> Employee[Employee]
```

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

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Question 34
Not yet answered
Marked out of 1.00
Flag question

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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STRUCTURED-2		
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ESSAY-40 MAR		
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65	66	67
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71	72	73
74	75	76
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89	90	91
92	93	94
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98	99	100

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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 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.

Seller has multiple buyers and Also Buyer has multiple Seller.

Quiz navigation

MCQ-40 MARKS		
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STRUCTURED-2		
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ESSAY-40 MAR		
53	54	55
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59	60	61
62	63	64
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74	75	76
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84	85	86
87	88	89
90	91	92
93	94	95
96	97	98
99	100	

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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:

```
main
```

Quiz navigation

MCQ: 40 MARKS						
1	2	3	4	5	6	7
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STRUCTURED: 20 MARKS						
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ESSAY: 40 MARKS						
51	52					
Activity Windows						
Feedback						

Online Exams
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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 24

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36 37 38

44 45 46

51 52 53

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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

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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

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Quiz navigation

MCG-40 MARKS

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36	37	38	39	40		

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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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Online Exams

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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?

	Composition		Aggregation
	Aggregation		Composition
	Inheritance		Inheritance
	Association		

Select one:

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

Quiz navigation

MCG- 40 MARKS

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STRUCTURED- 20 MARKS

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48	49	50				

Quiz navigation

MCG- 40 MARKS

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STRUCTURED- 20 MARKS

41	42	43	44	45	46	47
48	49	50				

ESSAY- 40 MARKS

51	52

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:

Patient
- id : int
- age : int
+ setDetails (a : int; i : int) : void
+ getAge() : int
+ getId() : int

a.
Patient
- int : id
- int : age
+ setDetails (int : a, int : i) : void
+ getAge() : int
+ getId() : int

b.
Patient
+ id : int
+ age : int
+ void ; setDetails (a : int, i : int)
+ int : getAge()
+ int : getId()

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

Quiz navigation

MCG- 40 MARKS

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STRUCTURED- 20 MARKS

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48	49	50				

ESSAY- 40 MARKS

51	52

FEEDBACK

53



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

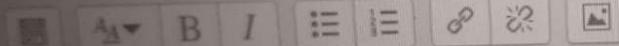
MCQ - ANSWERS

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17	18	19	20

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OUTPUT:

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



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

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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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37	38	39	40		

STRUCTURED-20 MARKS

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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

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Quiz navigation

MCQ-40 MARKS

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STRUCTURED-20 MARKS

41	42	43	44	45
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Sri Lanka Institute of Information Technology

Person

+Name

1

B..*

Vehicle

+Model

+RegistrationNo

1..*

Manufacturer

+Name

+Country

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

Select one:

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

Quiz navigation

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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 ATT 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	41	42	43	44	45	46	47	48	49	50
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Online Exams

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27
answered
out of
question

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)

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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				

STRUCTURED- 20 MARKS

22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40		

ESSAY- 40 MARKS

51	52
----	----

FEEDBACK

53

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

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

int main()
{
}
```

OUTPUT:

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

A A B I

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

Next page

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

Responsibility	Collaboration
store new and old chat data	
Manage automatic greetings	

Next page

The screenshot shows a computer interface with a terminal window and a code editor. The terminal window displays the output "Number = 100". The code editor shows the following C++ code:

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

The screenshot shows a programming quiz interface for "Question 50" in the "Computer Applications in Information Technology" section. The question asks to add three lines of code to get a specific output.

Question 50
Not yet answered
Marked out of 10
Flag question

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;
}
```

Quiz navigation

MCD-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
48	49	50			

ESSAY-40 MARKS

51	52
----	----

FEEDBACK

Finish attempt..

Time left 1:08:49

Moodle

Class Name	order
Responsibilities	Collaborations
store order details	

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



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estion

"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

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
41	42	43	44	45
46	47	48	49	50

STRUCTURED MCQS

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

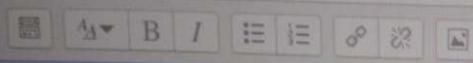
Flag question

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 pa



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

Next page

MCQ- 40 MARKS

1	2	3	4	5
9	10	11	12	13
17	18	19	20	21
25	26	27	28	29
33	34	35	36	37

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

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

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
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 41 42 43 44
45 46 47 48 49

Next Page

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 Online Exams

Sri Lanka Institute of Information Technology

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

1	2	3	4
5	6	7	8
15	16	17	18
22	23	24	25
29	30	31	32
36	37	38	39

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:

[Next page](#)

MCQ- 40 MARKS

1	2	3	4
9	10	11	12
17	18	19	20
25	26	27	28
33	34	35	36

STRUCTURED- 20 MARKS

41	42	43	44
49	50		

ESSAY- 40 MARKS

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

```
class Person {
public:
    void setName(string name) {
        this->name = name;
        this->address = address;
    }
    void display() {
        cout<<name<< " "<<address->city<< " "<<address->state<<endl;
    }
};

int main(void) {
    //PART A - Create the Address object
    Address add1("Noida", "UP");
    //PART B - Create the Employee with the above address and name=>"Kamal"
    Person el("Kamal", &add1);
    el.display();
    return 0;
}
```

output:

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

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

Answer:

Quiz navigation

4. 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
	I

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

STRUCTURED MARKS

41	42	43	44	45
46	47	48	49	50

48
Answered
Part of
Question

Sri Lanka Institute of Information Technology

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

Next page

QUESTION PAPER

Question 52
Not yet answered
Marked out of 1.00
Flag question

Sri Lanka Institute of Information Technology

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		

STRUCTURED-20 MARKS

41	42	43	44	45	46
47	48	49	50		



Online Exams

Sri Lanka Institute of Information Technology

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estion

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:

[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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Powered by Question

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

Information Technology

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

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 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:

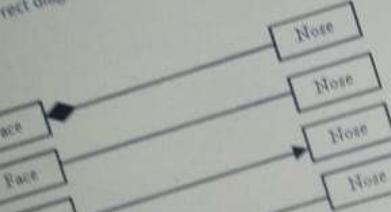
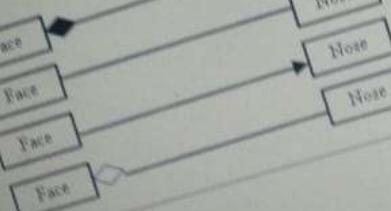
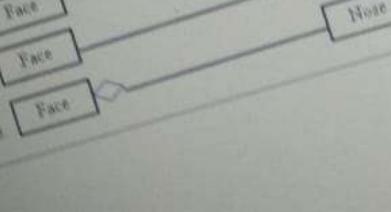
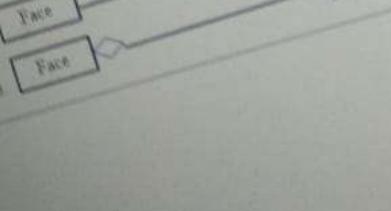
- a. Flow charts
- b. Algorithms
- c. CRC cards
- d. All of the above

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. 
- b. 
- c. 
- d. 



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

Sri Lanka Institute of Information Technology

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

Sri Lanka Institute of Information Technology

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

Sri Lanka Institute of Information Technology

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

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

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 boxes numbered 1 through 40. The 'STRUCTURED' grid has 2 rows and 8 columns, with boxes numbered 41 through 48. The 'ESSAY' grid has 2 rows and 2 columns, with boxes numbered 51 and 52. Below these grids are 'FEEDBACK' sections with boxes numbered 53, 54, and 55. A 'Next page' button is located at the bottom left of the question area.