

Question#1

Write a program to find the grades of a student using multiple inheritances according to the following rules;

Grade A if marks are > 80

Grade B if marks are > 70 and < 80

Grade C if marks are > 50 and < 70

Grade F if marks are < 40

Question#2

- (a) Write a C++ program to create a base class called STUDENT(Name, Roll Number, Age) and using inheritance create classes JG student and PG student having fields as semester, fees and stipend. Enter the data of 6 students. Find the average age, semester wise for all UG and PG students separately. (Assume at least two different values for semester field for each of UG and PG classes). (12)

Question#3

Create a class Course that includes data members that hold the course name (for example, OOP), and the course number (for example, 101). All of the data members need to be initialized with parameterized constructors (may be multiple). The class includes a Display () member function that displays the detail of Course. Create a subclass named Labcourse that include data member lab course credit hour(Labhrrs), which is assign 4.00 if the user enter course name such as ICT, OOP and OS. This class also include a Show () method to display that the course is a lab course or otherwise. Write a main () function that instantiate one object of Labcourse and displays its data.

Question#4

- (b) Define a class bank account with current and saving bank account as inherited classes. Class bank account should have following data members: Account number, Name, Balance Amount and Member Functions: To initialize the value, to deposit and withdraw amount after checking the minimum balance. (5)

Question#5

Create a class named **Shape** with a function that prints "This is a shape".
Create another class named **Polygon** inheriting the Shape class with the same function that prints "Polygon is a shape".
Create two other classes named Rectangle and Triangle having the same function which prints "Rectangle is a polygon" and "Triangle is a polygon" respectively.
Again, make another class named Square having the same function which prints "Square is a rectangle".
Now, try calling the function by the object of each of these classes.

Question#6

Question NO 7:

We want to store the information of different vehicles. Create a class named Vehicle with two data members named "mileage" and "price".

Create its two subclasses

*Car with data members to store ownership cost, warranty (by years), seating capacity and fuel type (diesel or petrol).

*Bike with data members to store the number of cylinders, number of gears, cooling type (air, liquid or oil), wheel type (alloys or spokes) and fuel tank size (in inches)

Make another two subclasses Audi and Ford of Car, each having a data member to store the model type. Next, make two subclasses Bajaj and TVS, each having a data member to store the make-type. Now, store and print the information of an Audi and a Ford car (i.e. model type, ownership cost, warranty, seating capacity, fuel type, mileage and price.) Do the same for a Bajaj and a TVS bike.