Practice List: 04	
Sr. No.	**Problem Definition**
1.	Create a C++ application by creating a class named PERSON with data member id and name. Inherit PERSON class in STUDENT class with data member marks of three subjects. Store three student's data and display the result of each student.
2.	Write a Program for handling arithmetic operations through inheritance.
3.	Create two classes named GRADE and STUDENT. The class GRADE has data members grade while the STUDENT has data members such as roll no, name and total marks of the student. By using data of both the classes print the roll no, name and grade of each student in proper format.
4.	Write a C++ program to calculate area of rectangles using the concept of inheritance. Make Base Class: RECTANGLE, Data Members: l, b(type float) (Initialize it with zero) Member Function: getval() Derive Class: AREA from RECTANGLE publicly.
5.	Create the classes named MANAGER, CLERKS and PEONS which is inheriting from class EMPLOYEE. By using an array store the details of 10 employees in writedetail() and readdetails() should be able to be access in the same routine irrespective of their type.
6.	Consider a bank which maintains two kinds of accounts for customer, one is savings account and the other is current account. The saving account provides compound interest and withdrawal facilities, but no check book facility. The current account provides check book facility, but no interest. Current account holder should also maintain a minimum balance and if the balance falls below this level, service charges are imposed. Create a class called ACCOUNT that stores customer name, account number and type of account, from this, derive the classes CUR_ACC and SAV_ACC to make them more specific to their requirements. Include necessary member function in order to achieve program: 1. Accepts deposits from a customer and update the balance. 2. Display the balance.

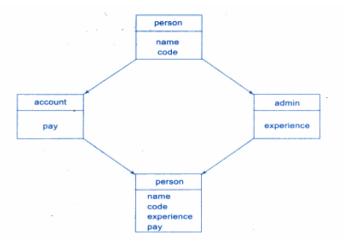|	
	3. Compute and deposit interest.
	4. Permit withdrawal and update the balance.
	5. Check for the minimum balance, impose penalty, necessary and update the balance.
7.	An educational institution wishes to maintain a database of its employee. The database is divided into a number of classes whose hierarchical relation are shown in below figure. The figure also shows the minimum information required for each class. Specify all the classes and define functions to create the database and retrieve individual information as and when required.
8.	Create a class VEHICLE having data members wheels and weight; and member function get_wheel()[Do not enter two wheel value], get_weight(). Derive a class CAR from the VEHICLE, which asks for no. of people in the car. Analyze type of inheritance and display detail of it.
9.	Declare a base class STUDENT. Make the functions getnumber() and putnumber() of class STUDENT. Create the derived class EXAM from the base class STUDENT. Make the function getmarks() and putmarks() of class EXAM. Create another derived class SPORTS from the base class STUDENT. Make the function getscore() and putscore() of class SPORTS. Create the derived class RESULT derived from the class EXAM and SPORTS. Make the function display() to calculate the total. Create the derived class object obj. Call the function getnumber(),getmarks(),getscore() and display().

10.	Create a base class "powerdevice" which will ask for number of device using getpowerdevice(). Derive a class "scanner" from "powerdevice which will ask for number of scanner available using scan(). Derive another class "printer" from "powerdevice" which will get number of printers available. Derive one more class "copier" from "scanner" and print all details of device available in printer_display().
11.	Consider the following figure: The main class derives information from both "account" and "admin" classes which derive information from the class "person". Using all the four classes and write a program to create, update and display the information contained in master objects.
12.	MacTech Pvt. Ltd. publishing company, markets both book and audio cassette versions of its work. Create a class called PUBLICATION that stores the title (a string) and price (type float) of a publication. From this class derive two classes: BOOK, which adds a page count (type int); and class TAPE, which adds playing time in minutes (type float). Write a C++ program that reads both book and tape information in one array. When the user has finished entering data for all books and tapes, displays the resulting Data for all the books and tapes entered. Also count no. of book and cassette entries in the Array using the runtime identification feature of C++.