1. Write a Program using class to process Shopping List for a Departmental Store. The list includes details such as the Code No and Price of each item and perform the operations like Adding, Deleting Items to the list and Printing the Total value of a Order.

2. Write a Program which creates & uses ***array of object of a class***
   implementing the list of Managers of a Company having details such as Name, Age, basesalary, insurance paid, traveling allowance, departmental allowance, income tax, professional tax, take home salary etc..)
   Note: TA & DA will be added to base_salary and tax will be deducted from base salary and display take home salary.

3. Write a Program to design a student class representing student roll no. and a test class (derived class of student) representing the scores of the student in various subjects and sports class representing the score in sports. The sports and test class should be inherited by a result class having the functionality to add the scores and display the final result for a student.
   Note: use relevant inheritance and implement the program

4. Write a program to design a class representing the information regarding digital library (books, CD, magazines, novels, journal should be separate classes having the base class as library).
   Note: a. book has isbn no, authorname, published by, year of published
   b. CD has title of project, submitted by, year of submission, ratinnng.
   c. novel has author name, number of copies sold, rating.
   d. journal has journal name, indexed by
   use suitable inheritance and implement.

5. Create class restraint with data members item_no, name, price, type(south indian ,north indian, continental) and member function getdata() and putdata().

   Create a class second with data members item ordered, type and members getdata() and showdata(). Derive a class third from first and second with data member price to pay and GST. Display all these information using object third class. note: display atlest 4 bills.

6. Design three classes FLIGHT, TRIN and BUS. The FLIGHT class has data Members such as flight_no, airways_name,fare on ticket. create a class train trin_no, class_of_train(1A,2A,3A),fare on ticket. The BUS class bus_no, travels_name, fare on ticket. Derive the TRAVEL_EXP from FLIGHT, TRIN and BUS and calculate total year traveling expenditure.

7. Define a class named 'patient' with p_id, p_name, p_age and address.

   Derive two classes namely 'in_patients' and 'out_patients' from 'patient'. The class 'in-patient' should include room no, date_of_admission, date_of_discharge, no_of_days and charge/day. The 'out_patients' class should include consultation_fees and test-fees. Derive a class named 'Bill' from both 'out_patients' and 'in_patients' which include date_of_bill, to_amount. Write a program to calculate total amount and produce bill for 'n' patients.

8. Write a program to perform addition of two complex numbers using constructor overloading. The first constructor which takes no argument is used to create objects which are not initialized, second which takes one argument is used to initialize real

and imag parts to equal values and third which takes two arguments is used to initialized real and imag to two different values.

9. Write a program for method overloading implementing single inheritance depend upon his designation the program print the details of person including salary.(HR manager, program analyst, program manager, team lead, tester, sr programmer , jr. programmer , technical assistant, assistant)

10. Create a base class called SHAPE. Use this class to store two double type values. Derive two specific classes called TRIANGLE and RECTANGLE from the base class. Add to the base class, a member function getdata to initialize base class data members and another member function display to compute and display the area of figures. Make display a virtual function and redefine this function in the derived classes to suit their requirements. Using these three classes design a program that will accept driven of aTRINGLE or RECTANGLE interactively and display the area.

11. Write a program to write and read object using read and write function to store the student details like name,rool no, branch, rank, subject names(atlest 6),marks in 6 subjects, total , percentage ? take 4 student details and modify the second student details ?

12. Write a program to implement I/O operations on characters. I/O operations includes inputing a string, Calculating length of the string, Storing the String in a file, fetching the stored characters from it, etc.

13. Write a program to write and read object using read and write function to store the student details like name,rool no, branch, rank, subject names(atlest 6),marks in 6 subjects, total , percentage ?

14. Write a program to maintain the records of person with details *(Name and Age)* and find the eldest among them. The program must use *this pointer* to return the result.

15. Create a class called LIST with two pure virtual function store() and retrieve().To store a value call store and to retrieve call retrieve function. Derive two classes stack and queue from it and override store and retrieve.

16. Create a class pre_post and write two functions get() and post() and overload unary ++ (post fix and prefix) using friend function and accept values using get() and print the values using post() in the main().

17. Write a program to implement c++ refrencess concept by carating LIVE object Accept the data using getdata() function And the print the data using setdata function() .

18. Create a class distance implement two methods read() and write() accept distance in kilometers and meters and calculate using unary + operator overloading.

19. Create a class distance implement two methods read() and write() accept distance in kilometers and meters and calculate using unary + operator overloading.

20.Create a class distance implement two methods read() and write() accept distance in kilometers and meters and calculate using binary + operator overloading .

21.Create class complex and perform addition of two complex numbers numbers by overloading binary (+) using friend function ?

22.WAP in C++ to illustrate the use of public, private, protected members and public, private, protected functions in a base class and derived class and how base class and derived class objects access those DataMebers and Function Memebers.

23.WAP in C++ to show the order of execution of constructors and destructors in base and derived classes IN MULTI LEVEL INHERITANCE.

24.WAP in C++ to perform operations on sequential access file using **f stream object** and if/of stream objects with appropriate functions

25. WAP in C++ to illustrate template classes, template class with default types, template class with multiple data types ?

26.WAP in C++ to implement member function template of a class. (External representation of member function and constructors)

27.WAP in C++ to implement Command Line Arguments for files to save even and odd data in to two files .

28.Write a program to read file using constructor and save the 10 student names and read the same file using constructor and print data on console ?

29. Write a program to implement generic programing using templates and implement a swap operation on int, float, double, long double.

30.Create two pure virtual functions student data and parent data(name, occupation, address, age, etc…) and override them in the derived class and call in the main using base pointer.