

## C++ Program

### March 2000

1. Write a program in C++ by using overloaded + operator to concatenate string.
2. Write a C++ program using overloaded operator to compare distance in feet and inch.  
e.g.    dist1 = 5' 11.5"  
       dist2 = 6' 2.5"  
       o/p -> dist1 is less than dist2.
3. Write a C++ program using inline function to calculate area of a triangle.
4. Write a C++ program to read text file and display on the screen.
5. Write a C++ program to create object ‘person’ consists of ‘Name’ and ‘Age’. Write this object onto disk.
6. Define class for amount consisting members ‘Rs.’ and ‘Paisa’. Write a friend functions of square amount.
7. Write an inheritance for string class to store and display string.
8. Write a C++ program to find length of the string. Using member function convert string object to upper case letter.

### March 2002

1. Write down a program in C++ to display addition of two matrices and transpose of the resultant matrix. The order of matrices should be specified by the user.
2. Write down a program in C++ to create a class of objects as objfirst and objsecond. Overload the assignment operator to assign the contents of objfirst to objsecond.
3. Write a C++ program having class to represent a bank account. Include following members.

i) Name of depositer	ii) Account number
iii) Type of account	iv) Balance Amount in Account.

Member functions.

i) To assign initial values	ii) To deposit amount
iii) To withdraw amount	iv) To display name and balance.
4. Using friend function, write a program to define class CUSTOMER with his ACC\_NO, Balance, Dateofopening.
5. Write a C++ program to sort array using pointers.

6. Write a C++ program to read data for the structure elements emp-name, dept-name, basic-salary and net-pay from keyboard and store them in a specified file read the same file and display it's content on screen.
7. Write down C++ program which will create stack and queue as an object. Your program should appropriately handle insertion, deletion and list operations for the above objects.
8. Using member function convert string lowerobj to lower case letters.
9. Write a program in C++ to copy text file into another file using command line argument.

## Oct 2000

1. Write C++ void for reversing the string.
2. Write C++ program to create a class called as ‘edate’, that has separate member data for mm, yy, dd. One constructor should initialize this data zero and another constructor should initialize it to fixed value. A member function should display in following format.  
12 : 99 : 26
3. Write C++ program using inline function to calculate square of given number.
4. Write C++ program to sort array using pointers.
5. Write C++ program to perform the file copy operation from source file to target file.
6. Write C++ program to create a object ‘student’ consisting ‘roll\_no’ and ‘marks’. Write this object onto the disk.
7. Define a C++ class of 10 integers which has following members.
  - i) Constructor function for initializing different members.
  - ii) Function for getting smallest value. Show working of all members through a C++ main( ).
8. Using member function convert string object to lower case letter.
9. Write C++ program which has the class carbuettor. Create an object in this as a new class ‘Car’. The data member of classes are private, they are type, cost, manf of char, float and char[30] respectively.

## Oct 2001

1. Write a program inline function to calculate x power 4.
2. Write a program in C++ to find out g.c.d. (Greatest Common Divisor) of two numbers.
3. Write a program in C++ using overloaded to subtract weight in Kg and gm.  
e.g. Kg = 150   Kg = 90  
      gm = 700   gm = 200

4. Write a function to print matrix with row & col. Take default parameter row = 3 and col=3.
5. Write a program in C++ implement structure for constructor. It consist following member.
  - i) Customer No.
  - ii) Name
  - iii) Qty
  - iv) Rate

Read 10 records of customer using structure array. Find out name of the customer having highest amount.

6. Write program in C++ to demonstrate use of constructor & destructor using appropriate example.
7. Using friend function, write a program to define class to add two amounts. Amount it consist ‘Rs’ and ‘Paisa’.
8. Write a program to find length of string using pointer variable.
9. Write a program in C++ to copy text file into another file using command line argument.
10. Create base class called shape. Use this class to store two double types values to compute area of figure. Derive two class triangle & rectangle from base class. Use appropriate member functions.

## Others

1. Write a C++ void for reversing string.
2. Create a class called ‘Time’ that has separate ‘int’ member ‘data’ for hours, minute and second.  
One constructor should initialize this data to 0, and another should initialize it to fixed value. A member function should display it in format 11:05:49.
3. Write a C++ program using inline function to calculate factorial of a given number.
4. Write a program for copying one text file of characters to another file using features of file based I/O C++.
5. Write a program to print command line argument in Reverse order.
6. Write C++ program using overloading functions in base and derived classes to push elements onto stack.
7. Write a functions to interchange values using pointer variables.
8. Design C++ class CHARACTER. This class should have a char private data member and following public member functions.

- i) Suitable constructor function for initializing data members.
  - ii) Function for getting ASCII value of data member.
  - iii) Function for printing value of data member.
9. Write a function for addition of 10 integers, use templates in function.
10. Write a program to read two integers a and b, swap the contents of a and b. Program should use pointers.
11. Write the function
- ```
int occurrence(float a[30], int n, int x)
```
- This function counts the number of times the item x appears among the first n elements of the array a and returns that count as the occurrence of x in a.
12. Write a program to calculate the following function to 0.0001 % accuracy.
- $$\text{Sum} = 1 + (1/2)^2 + (1/3)^3 + (1/4)^4 + \dots$$
13. A file ‘Elect.dat’ contains information in the following format.  
Name, Age, Sex-code.  
Write a program to read the file and output the list of persons having age $\geq$ 18 years. Also find out the total number of male and total number of females having age $<$ 18 years.
14. Write a program to calculate the sum of the following series.  
 $1/3 + 3/4 + 12/5 + 60/6 + \dots \dots \dots$  10 terms
15. Write a program to read a 4-digit number and print in reverse order. Also check whether the number is palindrom or not.
16. Define a class to represent Distance which includes the members.
- Data members
- i) Feet
  - ii) Inches
- Member Functions
- i) To set initial values
  - ii) To read values from keyboard
  - iii) To display the distance in feet and inches.
  - iv) To add the two distance objects.
17. A file ‘Sales.dbf’ contain the following information.  
Salesman name, Region, Sales amount.  
Commission will be given to those salesman whose sales amount is greater than Rs. 20,000/- . Write a program in C++ to calculate the commission and print a report.
18. Write C++ program to read temp Farenhit & convert it to Celsius.

19. Write C++ program to overload operator == to compare whether two complex numbers are equal or not.
20. Write a program to calculate sum of following series.  

$$\text{Sum} = x/2 + x^2/4 + x^3/6 + x^4/8 + \dots \dots \dots \quad (20 \text{ terms})$$
21. Write a program to count no of lines, words and characters in a given text.
22. Create a shopping list & perform add, delete operations using menu.
23. Write a function power( ) to raise number m to power n. The function takes a double value for m and int value for n and returns the result correctly. Use a default value 2 for n to take the function to calculate square when this argument is omitted. Write a main that gets the values of m & n from the user to test the function.
24. Write C++ program to overload binary addition operator to perform addition of two complex numbers. Design appropriate class.
25. Write C++ program to calculate the volume of cylinder, cube & rectangle box. Use concept of function overloading to overload the function volume.
26. Define a class to represent a bank account. Include the following members.
- Data members :      1) Name of depositor  
                       2) Account number  
                       3) Type of account.  
                       4) Balance amount in the account.
- Member functions :      1) To assign initial values.  
                       2) To deposit an amount.  
                       3) To withdraw an amount after checking balance.  
                       4) To display name & balance.
27. Create a file ‘stud.dat’. Read rollno, name & marks obtained in three subjects for ten students. Store this information in above file. Also display rollno, name & total marks of each student after reading from file.

### **Exam Slip**

1. Write C++ program to define functional string class so that it implement the operation for string concat.
2. Write C++ program to define functional string class so that it implement the operation to find length of string.
3. Write C++ program to define functional string class so that it implement the operation to split string.
4. Write C++ program to define functional string class so that it implement the operation to compare string, if both strings are equal display message ‘string are equal’ otherwise ‘strings are not equal’.

5. Write C++ program to design class books with necessary data & functions store and print list of Books. Search and print books of given authors.
6. Write C++ program to design class Author with necessary data & functions store and print list of authors. Also search and print list of author in subject ‘Computer’.
7. Write C++ program to design class Issue for library management system with proper data type and functions. Store and print list of books issued to student of ‘Computer dept’.
8. Write C++ program to design class Books Demand for library management system with necessary data type and functions store and print list of books demanded by student of computer department.
9. Write C++ program to implement stack as object for push & pop operation.
10. Write C++ program to implement linked list as object for insert node & display linked list.
11. Write C++ program to implement linked list as a object for delete node & display linked list.
12. Write C++ program to implement class matrix which will overload operator ‘+’ to carry out matrix addition as  $c = a+b$ .
13. Write C++ program to implement class matrix which will overload operator ‘-’ to carry out matrix subtraction as  $c = a-b$ .
14. Write C++ program to implement class matrix which will overload operator ‘~’ for transpose of matrix.
15. Write C++ program to design class for hash table.
16. Write C++ program to find smallest from three numbers with templates.
17. Write C++ program to implement stack as a class template.
18. Write C++ program to implement linked list as a class template.
19. Write C++ program to implement queue as object to perform insert & delete in / from queue.
20. Write C++ program to implement complex number as a class which will overload operator ‘+’ for addition two complex numbers.
21. Write C++ program to implement class for matrix which will overload operator ‘\*’ for multiplication of matrix as  $c = a*b$ .
22. Write C++ program to define function template which will sort and array of ‘int’ type.