



GOVIND VIDYALAYA TAMULIA

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ASSIGNMENT SHEET

STD XII

SESSION 2017-2018

Date-18-11-2017

1. Write a C++ program to generate and display the series 1,2,3,5,8,13,...up to N terms N must not exceed 20 (use constructor function to initialize data members).

2. Define a class applicant in c++ with following specification?

- A data member ANo(Admission Number) of type long
- A data member Name of string
- A data member Agg (Aggregate Marks)of type float
- A data member Grade of type char
- A member function GradeMe () to find the grade as per the aggregate Marks obtained by a student.

Equivalent Aggregate Marks range and the respective Grades are shown as follows:

Aggregate Marks	Grade
≥ 80	A
Less than 80 and ≥ 65	B
Less than 65 and ≥ 50	C
Less than 50	D

Public Members:

A function Enter to allow user to enter values for ANo, Name, Agg & Call function GradeMe () to find the Grade.

A function RESULTS () to allow user to view the contents of all the data members.

3. Declare a structure in c++ telerec containing name (10 Character) and telephone number. A binary data file "TELE.DAT" stores data of the type telerec. Write function in C++ to do the following:

(i) To append records in the file

(ii) Display the name for a given telephone number. If the telephone number does not exist then displays error message: Record not found".

4. An array MARKS [40] contains the marks of 40 students in a class. Write a function in C++ to count the number of students?

(i) Who scored more than 60?

(ii) Who scored below 33?

5. Consider the following declarations and answer the questions given below :

```
Class parent {  
    char name[20];  
protected : int son; public :  
    void inputdata(char, int);  
    void outputdata();
```

```
Class father : protected parent {  
int daughter; protected :  
    int baby; public :  
    void readdata( int, int)  
    void writedata();
```

```
Class mother : private father { int X;  
public :  
    void fetchdata(int);  
    void displaydata();
```

(i) Name the base class and derived class of the class father.

(ii) Name the data member(s) that can be accessed from function displaydata().

(iii) Name the member function(s), which can be accessed by an object of mother class.

(iv) Is the member function outputdata () accessible by the objects of father class ?

6. Write the definition of function named array swap() that will accept an integer array & its size as an arguments and the function interchange /swap elements in such a way that the first element is swapped with the last element, second element is swapped with the second element and so on, only if anyone or both the elements are odd?

E.g. if initially array of the seven elements is:

5,16,4,7,19,8,2

After execution of the above function the contents of the array will be ;

2,16,19,7,4,8,5

7. An array A[50][30] is stored along the row in the memory with each element requiring 4 bytes of storage. If the element a[10][15] is stored at 21500, then find out the base address of the array and the memory address of element stored location A[30][25].

8. Evaluate the following POSTFIX expression show the status of STACK after execution of each operation separately?
TRUE, FALSE, OR, NOT, TRUE, FALSE, AND, OR

9. Reduce the following Boolean expression using K-Map: $F(A,B,C,D) = \sum (0,1,2,4,5,8,9,10,11)$

10. Define a class in C++ with following description:

Private Members

A data member Flight number of type integer

A data member Destination of type string

A data member Distance of type float

A data member Fuel of type float

A member function CALFUEL() to calculate the value of Fuel as per the following criteria

Distance	Fuel
≤ 1000	500
more than 1000 and ≤ 2000	1100
more than 2000	2200

Public Members

A function FEEDINFO() to allow user to enter values for Flight Number, Destination, Distance & call function

CALFUEL() to calculate the quantity of Fuel

A function SHOWINFO() to allow user to view the content of all the data members

11. Write C++ code to perform Binary search and Binary sort operation using c++ programming language?

12. Write a function in C++ to perform Push operation on a dynamically allocated stack containing real number?

13. Write a function in C++ to perform Insert operation on a dynamically allocated Queue containing names of student?

14. Write a program in C++ to add and delete your friends name in the given queue?

15. Write a function in C++ to count the no of "He "or "She" words present in a text file "STORY.TXT" if the file "STORY.TXT" contents is as follows:

He is playing

She is playing with her doll

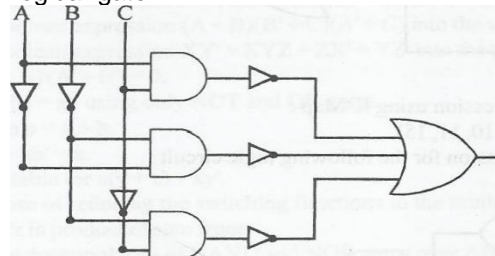
The output of the function should be

Count of He/She in file: 2

16. Wap in c++ to reverse a given string using POINTER?

17. Write an algorithm and source code for MERGE SORT in C++?

18. Find equivalent output of the given logical gate:



19. Convert the following Boolean expression into its equivalent Canonical Sum of Product (SOP):

$$(U'+V+W') \cdot (U+V'+W') \cdot (U+V+W')$$

20. Prove $X + Y'Z = (X + Y' + Z)(X + Y' + Z)(X + Y + Z)$ algebraically.

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