ASSIGNMENT (XII) 2017-18

COMPUTER SCIENCE (083)

1.Declare a class ***Computers*** in C++, containing model_no and model_name. Write a program to maintain a binary file of computer records. The program should allow the following functions on the file:

1) To append record of computer in the file.
2) Display the computer details for entered model number. If the model number does not exist then display error message "record not found".
3) Display the details of all computers stored in the file.

2. Consider the following portion of a program, which implements passengers Queue for a train. Complete all the definition, to insert a new node, delete and display in the queue with required information:

```
struct NODE
{
        long TicketNo;
        char PName[20];    // Passenger Name
        NODE *NEXT;
}
class TrainQueue
{
        NODE *rear, *front;
public:
        TrainQueue( ) { rear = NULL, front = NULL ;}
        void Q_Insert( );
        void Q_Delete ( );
        void Q_Display ( );
        ~TrainQueue( );
};
```

3. Write a function in C++ to perform a PUSH , POP & Display operation in a dynamically allocated stack considering the following :

```
struct Node
{       int X,Y;
        Node *Link;
};
class STACK
{       Node * Top;
        public:
        STACK( ) { TOP=NULL;}
        void PUSH( );
        void POP( );
        ~STACK( );
};
```

Create a menu to implement the class.

4. Write a function RevText() to read a text file " Input.txt " and Print whole sentence in reverse order .

Example: If value in text file is: *INDIA IS MY COUNTRY*

Output will be: *YRTNUOC YM SI AIDNI*

5. Write function definition for count( ) in C++ to display the total number of word "The" or "the" present in a text file "FILE.TXT".

Example:
If the content of the file "FILE.TXT" is as follows:
The school function is taking place in December. Our school has participated in many inter-school events. The school life is the best.

The function count() should display the following:
Total number of word "The/the":3

6. Create the following tables in SQL and write SQL commands for the statements that follows:

Relation : STAFF

No	NAME	DOJ	DEPT	GENDER	QUALF
101	Siddharth	12/01/02	Sales	M	MBA
104	Raghav	8/05/88	Finance	M	CA
107	Naman	14/05/88	Research	M	MTECH
114	Nupur	1/02/03	Sales	F	MBA
109	Janvi	18/7/04	Finance	F	CA
105	Rama	14/4/07	Research	M	BTECH

Relation : SALARY

ID	BASIC	ALLOWANCE	COMM_PERC
101	15240	5400	3
104	23000	1452	4
107	14870	2451	3
114	21000	3451	14
109	24500	1452	10
105	17000	1250	2

i) Display the name of all CA's along with the total salary.
(Total Salary=basic+Allowance+(Comm_Perc*Basic/100))
ii) Display the number of staff members departmentwise
iii) Hike the Allowance of all female staff working in finance sector .
iv) Display the average basic salary given to the employee in each department
v) Arrange the male staff details in ascending order of ID from STAFF table

7. Create the following table in SQL and write SQL commands for the statements that follows:

TABLE: WORKER					
ECODE	**NAME**	**DESIG**	**PLEVEL**	**DOJ**	**DOB**
11	Radhe Shyam	Supervisor	P001	13-Sep-2004	23-Aug-1981
12	Chander Nath	Operator	P003	22-Feb-2010	12-Jul-1987
13	Fizza	Operator	P003	14-Jun-2009	14-Oct-1983
15	Ameen Ahmed	Mechanic	P002	21-Aug-2006	13-Mar-1984
18	Sanya	Clerk	P002	19-Dec-2005	09-Jun-1983

TABLE: PAYLEVEL		
PLEVEL	**PAY**	**ALLOWANCE**
P001	26000	12000
P002	22000	10000
P003	12000	6000

(i) Display the names of all Workers in descending order of DOB.

(ii) Display Name , Desig and total pay of those Workers whose Plevel is either P001 or P002.(Total Pay=Pay+Allowance)

(iii) Display content of all the Workers whose DOB is between 19-Jan-1984 and 18-Jan-1987.

(iv) Count the total of allowance along with the PLevels.

(v) Display ecode,Name and total pay for Operators(Total Pay=Pay+Allowance)

8. Create the following tables FLIGHTS and FARES. Write SQL commands for the statements that follows:

TABLE: FLIGHTS				
FL_NO	**STARTING**	**ENDING**	**NO_FLIGHTS**	**NO_STOPS**
IC301	Mumbai	Delhi	8	0
UC799	Bangalore	Delhi	2	1
MC101	INDORE	Mumbai	3	0
IC302	Delhi	Mumbai	8	0
AM812	Kanpur	Bangalore	3	1
IC899	Mumbai	Kochi	1	4
AM501	Delhi	Trivandrum	1	5
MU499	Mumbai	Madras	3	3
IC701	Delhi	Ahemdabad	4	0

TABLE: FARES			
FL_NO	**AIRLINES**	**FARE**	**TAX**
IC701	Indian Airlines	6500	10
MU499	Sahara	9400	5
AM501	Jet Airways	13400	8
IC899	Indian Airlines	8300	4
IC302	Indian Airlines	4300	10
UC799	Indian Airlines	10500	10
MC101	Deccan Airlines	3500	4

(i) Display total number of flights starting from DELHI. .
(ii) Display Flight details sorted by FL_NO whose starting or ending point is MUMBAI.

(iii) Display the Flight number and total fare to be paid for the flights from DELHI to MUMBAI using the tables FLIGHT and FARES, where total fare to be paid = FARE + (TAX * 20).
(iv) Display the minimum fare of each Airlines from the table FARES.
(v) Display airlines, starting and ending whose fare is greater than 10000 .

9. Create the following tables and write SQL commands for the statements that follows:

Table: PRODUCT			
P_ ID	**ProductName**	**Manufacturer**	**Price**
TP01	Talcum Powder	LAK	40
FW05	Face Wash	ABC	45
BS01	Bath Soap	ABC	55
SH06	Shampoo	XYZ	120
FW12	Face Wash	XYZ	95

Table:CLIENT			
C_ID	**ClientName**	**City**	**P_ID**
01	Cosmetic Shop	Delhi	FW05
06	Total Health	Mumbai	BS01
12	Live Life	Delhi	SH06
15	Pretty Woman	Delhi	FW12
16	Dreams	Banglore	TP01

(i) To display the details of those Clients whose City is Delhi.

(ii) To display the details of Products Whose Price is in the range of 50 to 100(Both values included).

(iii) To display the ClientName, City from table Client, and ProductName and Price from table Product, with their corresponding matching P_ID.

(iv) To increase the Price of all Products by 10.

(v) To display client ID, client name and product name with its price sorted by client name for XYZ manufacturer.