

**Delhi Public School, R.K.Puram, New Delhi**

**Computer Science Practical List 4**

20. Write a menu driven program to implement a static stack of integers that can contain a maximum of 10 integers.
21. Given the following structure  
**struct Student**  
{  
    **int Admno; char Name[20];**  
};  
Write a menu driven program to implement a static circular queue of Students that can contain a maximum of 9 Students.
22. Given the following structure  
**struct Book**  
{  
    **int Bno; char Bname[10];**  
    **Book \*Next;**  
};  
Write a menu driven program to implement a dynamic stack of Books.
23. Write a menu driven program to implement a dynamic queue of Real Number
24. Write SQL commands for the following:

- i. To create a table TEACHER with the following Columns:

**TCODE**                **VARCHAR (3)**  
**TEACHERNAME**      **VARCHAR (25)**  
**STREAM**             **VARCHAR (15)**  
**BASIC**               **DECIMAL (8,2)**  
**DATEOFJOINING**    **DATE**

- ii. To insert the following rows in the table TEACHER  
Table: TEACHER

<b>TCODE</b>	<b>TEACHERNAME</b>	<b>STREAM</b>	<b>BASIC</b>	<b>DATEOFJOINING</b>
101	Ananya Murty	Science	18000	1990-01-23
202	Kirti Khaneja	Humanities	28000	1978-12-12
103	Adil Mehra	Science	8000	2001-02-14
305	Nishiya Goel	Commerce	12000	1997-01-01
203	Shubh Pandit	Humanities	22000	1985-03-19
109	Naina	Science	20000	1994-07-17

- iii. To create a table STUDENT with the following Columns:

**SCODE**                **DECIMAL (3)**  
**NAME**                **VARCHAR (25)**  
**TCODE**               **DECIMAL (3)**  
**AGG**                 **DECIMAL (5,1)**

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- iv. To insert the following rows in the table STUDENT:

Table: STUDENT

SCODE	NAME	TCODE	AGG
2	Nabi Ahmad	101	91
1	Ravi Sahai	305	84
5	Vibhuti	203	67
4	Nazneen	103	89
3	Aryana	202	37
6	Jonathan	305	45

- v. To display the complete contents of the table TEACHER
- vi. To display details of those Teachers whose date of joining is from 1st of Jan 1978('1978-01-01') to 30th of November 1992 ('1992-11-30' - including both the days)
- vii. To display the contents of the table STUDENT in descending order of AGG.
- viii. To display NAME and SCODE of all the students who are taught by teachers having code numbers 101 and 203
- ix. To display income tax amount from the table TEACHER by computing income tax as 25% of BASIC
- x. To replace the value of column AGG with 82 where NAME is Ravi Sahai in the table STUDENT
- xi. To delete all the records from the table STUDENT where AGG is below 40.
- xii. To change the STREAM of the teacher whose name is Ananya Murty to 'Humanities' and her TCODE to 210.
- xiii. To add a column called GRADE in the table STUDENT to accommodate one character.
- xiv. To replace the column GRADE with 'A' in the table STUDENT whose AGG>=70
- xv. To replace the column GRADE with 'B' in the table STUDENT whose AGG>=40 and AGG<70.
- xvi. To replace the column GRADE with 'C' in the table STUDENT whose AGG <40.
- xvii. To display the TCODE and TEACHERNAME in ascending order of TCODE of all those teachers who teach the Humanities stream.
- xviii. To display the NAME, STREAM and DATEOFJOINING from the table TEACHER in ascending order of STREAM and descending order of DATEOFJOINING within STREAM.
- xix. To display the highest BASIC within each STREAM from the table TEACHER
- xx. To display the grand total of the BASIC & average BASIC from the table TEACHER.
- xxi. To display lowest AGG where TCODE is above 200 from the table STUDENT
- xxii. To display the number of rows present in the table TEACHER
- xxiii. To display average of AGG for each of the TCODE groupings from table STUDENT.
- xxiv. To find the total number of teachers in each STREAM.
- xxv. To display the names of all the different STREAMs taught from the table TEACHER.
- xxvi. To increase the Basic by 1000, for all those teachers whose DATEOFJOINING is before 1st February 1995 ('1995-02-01').
- xxvii. To display lowest BASIC within each STREAM in which 2 or more teachers are teaching.
- xxviii. To display NAME of the students and the corresponding TEACHERNAME, from the tables STUDENT and TEACHER with the help of corresponding entries for TCODE in both the tables.

### General Instructions:

[Note: Follow the earlier C++ Practical file instructions for programs 20-23]

- Type and execute the SQL queries mentioned in the question no. 24 during the Lab Periods
- On successful execution of queries, copy and paste all the SQL Queries+outputs in a Text File using Notepad, and save the notepad file in your user drive.
- Type in the following on top of the SQL queries and outputs

**Practical No : 24**

**Executed By: Abdul Sriprakash, Gareema Peter, John Chandrashekhar**

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- iv. Take a hardcopy of the SQL queries+outputs file from the printer and get it signed from the respective computer teacher. Paste/Attach this printout in the practical file and get the Index entry also signed.