**\*\*\*\*\*\*\*\*\*\* EXPERIMENT : 01 \*\*\*\*\*\*\*\*\*\***

**Aim** : To create the mentioned database and execute SQL queries against it.

**Problem Statement**:

Establish the TinyStores database and execute different SQL queries against it.

The logical database schemata, the organization of relations and their contents are as below EMP (EMP\_CODE, EMP\_LNAME, EMP\_FNAME, EMP\_DOB, STORE\_CODE)

STORE (STORE\_CODE, STORE\_NAME, YTD\_SALES, REGION\_CODE, EMP\_CODE)

REGION (REGION\_CODE, REGION\_DESC)

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**Roll no** : 55

**Date** : 08-Aug-2020

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 01 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Write SQL code that will create Tiny Stores Database**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**CREATE TABLE REGION(**

**REGION\_CODE NUMBER(1) NOT NULL,**

**REGION\_DESC VARCHAR2(10) NOT NULL,**

**CONSTRAINT REGION\_PK\_STORE\_CODE PRIMARY KEY(REGION\_CODE),**

**CONSTRAINT REGION\_CK\_REGION\_DESC CHECK**

**(REGION\_DESC IN('EAST','WEST','NORTH','SOUTH'))**

**);**

Table created.

DESC REGION

Name Null? Type

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REGION\_CODE NOT NULL NUMBER(1)

REGION\_DESC NOT NULL VARCHAR2(10)

**CREATE TABLE STORE(**

**STORE\_CODE NUMBER(2) NOT NULL,**

**STORE\_NAME VARCHAR2(25) NOT NULL,**

**YTD\_SALES NUMBER(9,2) DEFAULT 0 not null,**

**REGION\_CODE NUMBER(1) NOT NULL,**

**EMP\_CODE NUMBER(2) NOT NULL,**

**CONSTRAINT STORE\_PK\_STORE\_CODE PRIMARY KEY(STORE\_CODE),**

**CONSTRAINT STORE\_FK\_REGION\_REGION\_CODE FOREIGN KEY(REGION\_CODE)**

**REFERENCES REGION(REGION\_CODE)**

**);**

Table created.

DESC STORE

Name Null? Type

----------------------------------------- -------- ----------------------------

STORE\_CODE NOT NULL NUMBER(2)

STORE\_NAME NOT NULL VARCHAR2(25)

YTD\_SALES NOT NULL NUMBER(9,2)

REGION\_CODE NOT NULL NUMBER(1)

EMP\_CODE NOT NULL NUMBER(2)

**CREATE TABLE EMP(**

**EMP\_CODE NUMBER(2) NOT NULL,**

**EMP\_FNAME VARCHAR2(15) NOT NULL,**

**EMP\_LNAME VARCHAR2(15) NOT NULL,**

**EMP\_DOB DATE DEFAULT (SYSDATE - 365\*16),**

**STORE\_CODE NUMBER(1) NOT NULL,**

**SALARY NUMBER(5) NOT NULL,**

**CONSTRAINT EMP\_CK\_SALARY CHECK(SALARY BETWEEN 10000 AND 99999),**

**CONSTRAINT EMP\_PK\_EMP\_CODE PRIMARY KEY(EMP\_CODE),**

**CONSTRAINT EMP\_FK\_STORE\_STORE\_CODE FOREIGN KEY(STORE\_CODE)**

**REFERENCES STORE(STORE\_CODE)**

**);**

Table created.

DESC EMP

Name Null? Type

----------------------------------------- -------- ----------------------------

EMP\_CODE NOT NULL NUMBER(2)

EMP\_FNAME NOT NULL VARCHAR2(15)

EMP\_LNAME NOT NULL VARCHAR2(15)

EMP\_DOB DATE

STORE\_CODE NOT NULL NUMBER(2)

SALARY NOT NULL NUMBER(5)

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 04 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Write SQL code to print the date and time of the system. (You must ensure the**

**system clock is correct)**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SELECT SYSTIMESTAMP FROM DUAL;**

SYSTIMESTAMP

---------------------------------------------------------------------------

07-AUG-20 10.02.49.447000 AM +05:30

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 05 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Assuming that the database is fully populated, write the SQL code that will list all employees who do not earn more than 35000.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SELECT EMP\_CODE, EMP\_FNAME, EMP\_LNAME, SALARY**

**FROM EMP**

**WHERE SALARY<35000;**

EMP\_CODE EMP\_FNAME EMP\_LNAME SALARY

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14 MOHANA SETH 27000

15 SHASWAT PURI 25000

16 SIMON PARERA 25000

19 APRAJITA RAKSHAK 30000

20 RADHIKA GANESAN 31000

21 PAMPA ROY 28000

23 SRINIWAS REDDY 26000

24 VALLABH ROY 32000

25 BAHAR MIRPURI 29000

9 rows selected.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 06 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Write SQL code to list the first names and last names of the employees who**

**were born before “01-JAN-1972 and who are posted in the western region.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SELECT EMP\_FNAME,EMP\_LNAME**

**FROM EMP E,STORE S**

**WHERE EMP\_DOB < '01-JAN-1972'**

**AND E.STORE\_CODE=S.STORE\_CODE**

**AND S.REGION\_CODE=2;**

EMP\_FNAME EMP\_LNAME

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KASHISH SHUKLA

MOHANA SETH

APRAJITA RAKSHAK

BAHAR MIRPURI

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 07 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Write SQL code that will for each store print the name of manager alongwith**

**the store details.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SELECT STORE\_CODE,STORE\_NAME,YTD\_SALES,**

**EMP\_FNAME AS MANAGER\_FNAME,**

**EMP\_LNAME AS MANAGER\_LNAME**

**FROM STORE NATURAL JOIN EMP;**

STORE\_CODE STORE\_NAME YTD\_SALES MANAGER\_FNAME MANAGER\_LNAME

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21 SUCCESS JUNCTION 1000555.76 KASHISH SHUKLA

41 CURIOSITY CIRCLE 568000 MEHUL KHANDHADIYA

11 OPPORTUNITY SQUARE 986785.4 GAZAL SINGH

12 CENTRAL DELUGE 2930098.35 VIKRANT GOKHALE

31 ATTRIBUTE ALLEY 944568.66 PARTH GHAVGHAVE

22 DATABASE CORNER 1420000.34 CHANCHAL BHATI

6 rows selected.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QUERY – 08 \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Write SQL code to print store Code, store name, region name for each store.**

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**SELECT STORE\_CODE,STORE\_NAME,**

**REGION\_DESC**

**FROM STORE NATURAL JOIN REGION;**

STORE\_CODE STORE\_NAME REGION\_DES

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21 SUCCESS JUNCTION WEST

11 OPPORTUNITY SQUARE EAST

31 ATTRIBUTE ALLEY NORTH

12 CENTRAL DELUGE EAST

41 CURIOSITY CIRCLE SOUTH

22 DATABASE CORNER WEST

6 rows selected.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* VIVA-VOCE \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***

**Q1 – What is SQL?**

SQL is a standard language for accessing and manipulating databases.

SQL stands for Structured Query Language.

SQL lets you access and manipulate databases.

SQL became a standard of the American National Standards Institute (ANSI) in 1986,and of the International Organization for Standardization (ISO) in 1987.

Although SQL is an ANSI/ISO standard, there are different versions of the SQL language. However, to be compliant with the ANSI standard, they all support at least the major commands (such as SELECT, UPDATE, DELETE, INSERT, WHERE) in a similar manner.

Most of the SQL database programs also have their own proprietary extensions in addition to the SQL standard. Most of the actions you need to perform on a database are done with SQL statements.

**Q2 – Enlist the functions of DBA**

DBA stands for Database Administrators. DBA is used for specialized software to store and organize data. The role may include capacity planning, installation, configuration, database design, migration, performance monitoring, security, troubleshooting, as well as backup and data recovery.

Database administration is more of an operational or technical level function responsible for physical database design, security enforcement, and database performance. Tasks include maintaining the data dictionary, monitoring performance, and enforcing organizational standards and security.

These are the function of DBA:

1. Data policies, procedures, standards.

2. Planning- development of organization's IT strategy, enterprise model,

cost / benefit model, design of database environment, and administration plan.

3. Data conflict (ownership) resolution.

4. Data analysis- Define and model data requirements, business rules, operational

requirements, and maintain corporate data dictionary.

5. Internal marketing of DA concepts.

6. Managing the data repository.

**Q3 – What are the advantages of RDBMS over DBMS?**

The benefits or advantages of RDBMS over DBMS are:

➨It is easy to use.

➨It is secured in nature and data manipulation can be done.

➨It limits redundancy and replication of the data.

➨It offers better data integrity.

➨It provides better physical data independence.

➨It offers logical database independence i.e. data can be viewed in different ways

by the different users.

➨It provides better backup and recovery procedures.

➨It provides multiple interfaces.

➨Multiple users can access the database which is not possible in DBMS.

**Q4 – Differentiate between relation and a table.**

A database schema describes the structure and organization of data in a database system, while a table is a data set in which the data is organized in to a set of vertical columns and horizontal rows. The database schema defines the tables in a database, the columns and their types. In addition the schema also defines what columns are defined as the primary key of a table. Understandably, the schema of a database keeps constant once created, while the actual data in the database tables may change all the time.

**Q5 – Differentiate between 3GLs and 4GLs.**

The 3rd generation is the first generation that allowed a program to be run on a different machine than the one it was developed on. 3GL languages such as pascal and Fortran use procedural methods to accomplish a task: an explicit sequence of steps that produce a result.

The basic difference was third generation languages allowed you to manipulate only individual data items, where fourth generation languages allows you to manipulate groups of items as a group rather than individually.

4GL languages are non-procedural, they concentrate on what you want to do rather than how to do it. This is where object-oriented PL can fall under. An example is SQL.

**\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\***