**LAB ASSIGNMENT**

**DATABASE LAB**

**DUE DATE: 04/04/2022**

**TKM COLLEGE OF ENGINEERING**

**GROUP 1**

1. **Consider the following schema for a LibraryDatabase:**

BOOK (Book\_id, Title, Publisher\_Name, Pub\_Year)

BOOK\_AUTHORS (Book\_id, Author\_Name)

PUBLISHER (Name, Address, Phone)

BOOK\_COPIES (Book\_id, Branch\_id, No-of\_Copies)

BOOK\_LENDING (Book\_id, Branch\_id, Card\_No, Date\_Out, Due\_Date)

LIBRARY\_BRANCH (Branch\_id, Branch\_Name, Address)

**Write SQL queries to**

1. Retrieve details of all books in the library – id, title, name of publisher, authors, number of copies in each branch,etc.

2. Get the particulars of borrowers who have borrowed more than 3 books, but from Jan 2017 to Jun2017

3. Delete a book in BOOK table. Update the contents of other tables to reflect this data manipulationoperation.

4. Partition the BOOK table based on year of publication. Demonstrate its working with a simplequery.

5. Create a view of all books and its number of copies that are currently available in the Library.

**GROUP 2**

1. **Consider the following schema for OrderDatabase:**

SALESMAN (Salesman\_id, Name, City, Commission)

CUSTOMER (Customer\_id, Cust\_Name, City, Grade,Salesman\_id)

ORDERS (Ord\_No, Purchase\_Amt, Ord\_Date, Customer\_id, Salesman\_id)

**Write SQL queries to**

1. Count the customers with grades above Bangalore’s average.

2. Find the name and numbers of all salesmen who had more than one customer.

3. List all salesmen and indicate those who have and don’t have customers in their cities (Use UNION operation.)

4. Create a view that finds the salesman who has the customer with the highest order of a day.

5. Demonstrate the DELETE operation by removing salesman with id 1000. All his orders must also be deleted.

**GROUP 3&4**

* 1. Consider the database for a college and design an ER diagram. Write the query for the following.
     1. Create thetables:

Student (sid, sname, sex, dob,dno) Department (dno, dname)

Faculty (F\_id, fname, designation, salary,dno) Course (cid, cname, credits,dno)

Register (sid,cid,sem ) Teaching (f\_id,cid,sem) Hostel(hid,hname,seats,)

* + 1. Include the necessary constraints NOT NULL, DEFAULT, CHECK, and PRIMARY KEY, UNIQUE.
    2. Create a databasecollege
    3. Use college as the currentdatabase
    4. Display all the tables in collegedatabase
    5. Describe the structure of alltables
    6. Modify the student table to add a new field‘grade’

Consider the database for a college. Write the query for the following.

* + Insert at least 5 tuples into each table.
  + List the details of students in the ascending order of date of birth
  + Display the details of students from computer department
  + List the faculties in the descending order of salary
  + Display the total number of students in each department
  + Display the total number of faculties in each department with salary greater than 25000

**GROUP 5&6**

1. Consider the database for a banking enterprise. Write the queries for the below questions.
2. Create the followingtables

|  |  |
| --- | --- |
| Table | Attributes |
| Customer | cid,cname,loc,sex,dob |
| Bank\_brn | bcode,bloc,bsate |
| Deposit | Dacno,dtype,ddate,damt |
| Loan | Lacno,ltype,ldate,lamt |
| Accounts\_in | Bcode,cid |
| Depositor | cid,dacno |
| Borrower | cid,lacno |

1. Include necessary constraints.
2. Tables are created under the database ‘bank’
3. Display all the tables in bank database
4. Describe the structure of all tables
5. Delete tables

Consider the database for a college. Write the query for the following.

• Insert at least 5 tuples into each table.

• List the details of students in the ascending order of date of birth

• Display the details of students from computer department

• List the faculties in the descending order of salary

• Display the total number of students in each department

• Display the total number of faculties in each department with salary greater than 25000

**MANDATORY ASSIGNMENT FOR ALL GROUPS:**

Queries using aggregate functions(COUNT,AVG,MIN,MAX,SUM),Group by,Order by,Having.

|  |  |  |  |
| --- | --- | --- | --- |
| E\_ID | E\_NAME | AGE | SALARY |
| 101 | ANU | 22 | 9000 |
| 102 | Shane | 29 | 8000 |
| 103 | Rohan | 34 | 6000 |
| 104 | Scott | 44 | 10000 |
| 105 | Tiger | 35 | 8000 |
| 106 | Alex | 27 | 7000 |
| 107 | Abhi | 29 | 8000 |

1. Create Employee table containing all Records.
2. Count number of employee names from employee table.
3. Find the Maximum age from employee table
4. Find the Minimum age from employee table.
5. Display the Sum of age employee table.
6. Display the Average of age from Employee table
7. Create a View for age in employee table
8. Display views
9. Find grouped salaries of employees.
10. Find salaries of employee in Ascending Order
11. Find salaries of employee in Descending Order