GAYATRI VIDYA PARISHAD COLLEGE OF ENGINEERING (Autonomous)
(Approved by AICTE, Affiliated to JNTU-K, Kakinada)
Madhurawada, Visakhapatnam–530 048
Department of Computer Science and Engineering
Database Management Systems LAB
B.Tech. II Year III Sem (CSE-3)
External Lab Exam

1. To create a table employee with attributes empno, ename, job, mgr, hiredate, sal, deptno and table department with attributes deptno, dname, loc.

a) Which department has exactly one employee as clerk?

b) List the names of the employees whose name contains LA.

c) List the names of the employees whose joining date is between 2nd April,1981 and 8th September,1981.

d) For each salesman in the emp table retrieve the deptno and department name.

e) Compute the sum of all salaries of employee working under deptno=30.

f) List all the department who have no employees

2. Consider the following tables. SAILOR (sid, sname, rating, age) BOATS (bid, bname, colour) RESERVES (sid, bid, day)

i. Create the above tables by properly specifying the primary keys and foreign keys and enter at least five tuples for each relation.

ii. List the sailors in the descending order of their rating.

iii. List the sailors whose youngest sailor for each rating and who can vote.

iv. List the sailors who have reserved for both ‘RED’ and ‘GREEN’ boats.

v. . Find the names of sailors who have reserved all boats.

3. A college consists of number of employees working in different departments. In this context, create two tables’ employee and department. Employee consists of columns empno, empname, basic, hra, da, deductions, gross, net, date-of-birth. The calculation of hra,da are as per the rules of the college. Initially only empno, empname, basic have valid values. Other values are to be computed and updated later. Department contains deptno, deptname, and description columns. Deptno is the primary key in department table and referential integrity constraint exists between employee and department tables. Perform the following operations on the database

i. Display the average salary department wise
ii. Display the maximum salary of each department and also all departments put together.
iii. Commit the changes whenever required and rollback if necessary
iv. Find the employees whose salary is between 5000 and 10000 but not exactly 7500.
v. Find the employees whose name contains ‘en’.
vi. List the employees according to ascending order of salary.

4. To create a table employee with attributes empno, ename, job, mgr, hiredate, sal, deptno And table department with attributes deptno, dname, loc.

i. Which department has the highest number of clerks? Show the deptno and count.
ii. List the lowest salary for different jobs used in a company and list them in descending order.
iii. List the names of the employees whose name starts with LA.
iv. How many different job titles exist in the employee table?

5. Consider the following employee and department tables.

EMPLOYEE(empno, ename, designation, manager, hiredate, salary, deptno) and DEPARTMENT(deptno, dname, location)

i. Create the above tables by properly specifying the primary keys and foreign keys and enter at least five tuples for each relation.
ii. List the different job titles of employee table.
iii. List the details of employees of with minimum salary of employee table.
iv. Retrieve all the employees who are working in deptno=10 and who earn
v. salary atleast as much as any employee working in deptno=30.

6. Consider the following database for a banking enterprise.

BRANCH(branch_name, branch_city, assets) ACCOUNT(accno, branch_name, balance), DEPOSITOR(customer_name, accno), CUSTOMER(customer_name, customer_street, customer_city) , LOAN(loan_number, branch_name, amount) BORROWER(customer_name,loan_number)

i. Create the above tables by properly specifying the primary keys and foreign keys and enter at least five tuples for each relation.
ii. Find all the customers who have at least two accounts at the main branch.
iii. Find all the customers who have an account at all the branches located in a specific city.
iv. Demonstrate how you delete all account tuples at every branch located in a specific city.

7. Create tables like sailors,reserves and boats tables and write queries for the following

a. List the details of the oldest sailor for each rating level.
b. List the sailors who have reserved for all the boats.
c. List the sailors who have sailed atleast 2 boats on the same day
d. Find the name and age of the oldest sailor
e. Find the names of sailors who have reserved every boat reserved by those with a lower rating.

8. college consists of number of employees working in different departments. In this context, create two tables' employee and department. Employee consists of columns empno, empname, basic, hra, da, deductions, gross, net, date-of-birth. The calculation of hra,da are as per the rules of the college. Initially only empno, empname, basic have valid values. Other values are to be computed and updated later. Department contains deptno, deptname, and description columns. Deptno is the primary key in department table and referential integrity constraint exists between employee and department tables. Perform the following operations on the database

   i. Create tables department and employee with required constraints.Initially only the few columns (essential) are to be added. Add the remaining columns separately by using appropriate SQL command
   ii. Add constraint that basic should not be less than 5000.
   iii. the default value for date-of-birth is 1 jan, 1988
   iv. List the employees according to ascending order of salary in each department.
   v. Find the employees whose name contains 'en'.

9.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

   i. Count the customers with grades above Bangalore'saverage
   ii. Find the name and numbers of all salesmen who had more than onecustomer.
   iii. List all salesmen and indicate those who have and don't have customers in their cities (Use UNIONoperation.)
   iv. Create a view that finds the salesman who has the customer with the highest order of a day.
   v. Demonstrate the DELETE operation by removing salesman with id 1000. All his orders must also be deleted.

10. Create sailors, reserves and boats tables and write queries for the following

   i. Find the names of sailors who have reserved at least two different boats.
   ii. Write an SQL Query to find the sailors who reserved all the boats?
   iii. Write a SQL Query to Find the ages of Sailors whose name begins and end with b and have at least three characters?
   iv. Find the names of sailors who have reserved all boats.
   v. Find the sailor id's of sailors whose rating is better than every sailor called Bob.

11.A). Consider Dept table(DEPTNO DNAME LOC)

Perform the following:

1.Rename the table dept as department

2.Add a new column PINCODE with not null constraints to the existing table DEPT

3.All constraints and views that reference the column are dropped automatically, along with the column.

4.Rename the column DNAME to DEPT_NAME in dept table

5.Change the data type ofcolumn loc as CHAR with size 10

6.Delete table

B) Write a pl/sql program to find factorial of a number

12. Consider Employee table(EMPNOEMP_NAME,DEPT ,SALARY, DOJ,BRANCH)

1.Display all the fields of employee table

2.Retrieve employee number and their salary

3.Retrieve average salary of all employee

4.Retrieve number of employee

5.Display details of employee whose name is AMIT and salary greater than 50000

B) Write a pl/sql to find sum individual digits of a positive number

13. A)Consider Employee table(EMPNOEMP_NAME,DEPT ,SALARY, DOJ,BRANCH)

I. Retrieve distinct number of employee

II. Retrieve total salary of employee group by employee name and count similar names

III. Retrieve total salary of employee which is greater than >120000

IV. Display name of employee in descending order

B) Write a program to create a emp %rowtype record . Accept the empno from the user, and display all the information about the employee

14. A))Find name and age of oldest sailor using nested query

Find the age of the youngest sailor who is eligible to vote for each rating level with at least 2 such Sailors

B) Create a customer table with fields ID ,NAME, AGE, ADDRESS, AGE write a sql query to display record for which similar age count would be more than or equal to 2

15. A)CREATE TABLE DEPARTMENT(DNO ,DNAME,MGRSTARTDATE)

i. Find the sum of the salaries of all employees of the 'Accounts' department, as well as the maximum salary, the minimum salary, and the average salary in this department

ii. Retrieve the name of each employee Controlled by department number 5 (use EXISTS operator)

iii. Retrieve the name of each dept and number of employees working in each department which has at least 2 employees

B) Write a pl/sql program to create save points and perform rollback

16A) Consider the following tables. SAILOR(sid, sname, rating, age) BOATS(bid, bname, colour)

RESERVES(sid, bid, day)

i. Create the above tables by properly specifying the primary keys and foreign keys and enter at least five tuples for each relation.

ii. Find names of sailors who are older than oldest sailor with a rating of 10 using ALL operator .

iii. List the sailors whose youngest sailor for each rating and who can vote.

B)Write a procedure to take SAL of given Employee as input and calculate HRA, PF,DA, GROSS, TAX and NETSAL and return them to calling PL/SQL block(take EMPNO as Key board input to get SAL)

17.A). create 2 tables "Orders" table(OrderID CustomerID EmployeeID OrderDate ShipperID) and "Customers"(CustomerID CustomerName ContactName Address City PostalCode Country)

i) SQL statement selects all orders with customer information

ii) SQL statement selects all orders with customer and shipper information:

iii) Choose the correct JOIN clause to select all records from the two tables where there is a match in both tables.

B) Write a PL/SQL code to retrieve the employee name, join_date, and designation from employee database of an employee whose number is input by the user.

18A) create a product table with attributes:(ProductID ,ProductName, SupplierID,CategoryID ,Unit,Price) and "OrderDetails" table (OrderDetailID ,OrderID ,ProductID ,Quantity)

i) lists the product names if it finds ANY records in the OrderDetails table that quantity = 10:

ii) lists the product names if ALL the records in the OrderDetails table has quantity = 10

B) Write a Pl/SQL program to print integers from 1 to 10 by using PL/SQL FOR loop

19.A) Write a function to calculate square of a number and return calculated value to Calling PL/SQL block.

B) Write a PL/SQL code to calculate the total and the percentage of marks of the students in four subjects from the table- Student with the schema given below. STUDENT (RNO , S1 , S2, S3, S4, total, percentage)

INTERNAL EXAMINER EXTERNAL EXAMINER