DATABASE MANAGEMENT SYSTEMS LAB

B. Tech II Year I Semester- CSE-DS
Course Code:

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Course Outcomes:

At the end of the course student would be able to

1. Use the SQL commands such as DDL and DML statements to perform different operations.
2. Apply various Integrity constraints on the database tables.
3. Apply Joins to retrieve the information from multiple tables.
4. Design different Views of tables for different users.
5. Design and implement a PL/SQL program which includes procedures, functions, and triggers.

1. Database Schema for a customer-sale scenario

Customer (**Cust id : integer**, cust_name: string)
Item (**item_id: integer**,item_name: string, price:integer)
Sale (**bill_no: integer**, bill_data: date, **cust_id: integer, item_id: integer**, qty sold: integer)
For the above schema, perform the following.

a. Create the tables with the appropriate integrityconstraints.
b. Insert around 10 records in each of the tables
c. List all the bills for the current date with the customer names and item numbers
d. List the total Bill details with the quantity sold, price of the item and the final amount
e. List the details of the customer who have bought a product which has a price>200.
f. Give a count of how many products have been bought by each customer
g. Give a list of products bought by a customer having cust_id as5.
h. List the item details which are sold as of today
i. Create a view which lists out the bill_no, bill_date, cust_id, item_id, price, qty_sold, amount.
j. Create a view which lists the daily sales date wise for the last oneweek

2. Database Schema for a Student Library scenario

Student (**Stud_no :integer**,Stud_name: string)
Membership (**Mem_no: integer**,**Stud_no: integer**)
Book (**book_no: integer**, book_name:string, author: string)
Iss_rec (**iss_no:integer**, iss_date: date, **Mem_no: integer, book_no: integer**)
For the above schema, perform the following.

a. Create the tables with the appropriate integrity constraints.
b. Insert around 10 records in each of the tables.
c. List all the student names with their membership numbers

d. List all the issues for the current date with student and Book names
e. List the details of students who borrowed book whose author is KORTH.
f. Give a count of how many books have been bought by each student.
g. Give a list of books taken by student with stud_no as 5.
h. List the book details which are issued as oftoday.
i. Create a view which lists out the iss_no, iss _date, stud_name, book name
j. Create a view which lists the daily issues-date wise for the last one week

3. Database Schema for a Employee-payscenario

Employee (**emp_id:**integer,emp_name:string)
Department (**dept_id:integer**,dept_name:string)
Pay details (**emp_id : integer,dept_id: integer**, basic: integer, deductions: integer, additions: integer, DOJ: date)
Payroll **(emp_id : integer**, pay_date: date)
For the above schema, perform the following.

a. Create the tables with the appropriate integrity constraints.
b. Insert around 10 records in each of the tables.
c. List the employee details department wise.
d. List all the employee names who joined after particular date.
e. List the details of employees whose basic salary is between 50,000 and 1,00,000
f. Give a count of how many employees are working in each department.
g. Give a name of the employees whose net salary>1,00,000.
h. List the details for an employee_id=5
i. Create a view which lists out the emp_name, department, basic, deductions, net salary.
j. Create a view which lists the emp_name and his net salary.

4. Database Schema for a Video Library scenario

Customer (**cust_no: integer**,cust_name: string)
Membership (**Mem_no: integer**, **cust_no: integer**)
Cassette (**cass_no:integer**, cass_name:string, Language:String)
Iss_rec(**iss_no: integer**, iss_date: date, **mem_no: integer**, **cass_no: integer**)
For the above schema, perform the following.

a. Create the tables with the appropriate integrity constraints
b. Insert around 10 records in each of thetables.
c. List all the customer names with their membershipnumbers
d. List all the issues for the current date with the customer names and cassette names
e. List the details of the customer who has borrowed the cassette whose title is —The Legendll
f. Give a count of how many cassettes have been borrowed by eachcustomer.
g. Give a list of cassettes which has been taken by the Customer with mem_no as 5

h. List the cassettes issues for today.
i. Create a view which lists outs the iss_no, iss_date, cust_name,cass_name
j. Create a view which lists issues-date wise for the last one week

5. Database Schema for a student-Lab scenario

Student (**stud_no: integer**, stud_name: string, **class: string**)
Class (**class: string,descrip:string**)
Lab (**mach_no: integer**, Lab no: integer, description: String)
Allotment (**Stud_no: Integer, mach_no: integer, day of week: string)**
For the above schema, perform the following.

a. Create the tables with the appropriate integrity constraints.
b. Insert around 10 records in each of the tables.
c. List all the machine allotments with the student names, lab and machine numbers
d. List the total number of lab allotments daywise.
e. Give a count of how many machines have been allocated to the 'CSE' class
f. Give a machine allotment details of the stud_no 5 with his personal and class details.
g. Count for how many machines have been allocated in **Lab_no 1** for the day of the week as –Monday‖
h. How many students class wise have allocated machines in the labs.
i. Create a view which lists out the stud_no, stud_name, mach_no, lab_no,day of week.
j. Create a view which lists the machine allotment details for–Thursday.

6. Create a procedure to find reverse of a given number.

7. Create a procedure to update the salaries of all employees as per the given data.

8. Create a procedure to demonstrate IN, OUT and INOUT parameters.

9. Create a function to check whether given string is palindrome or not.

10. Create a function to find sum of salaries of all employees working in depart number 10.

11. Create a trigger before/after update on employee table for each row/statement.

12. Create a trigger before/after delete on employee table for each row/statement.

13. Create a trigger before/after insert on employee table for each row/statement.