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Course Code: MCA-156 Course Name: Database Management Systems

Practice Questions (Practical)

Q1. Consider a table :
Train (TrainNo#, TName, Destination, Source, DistanceTravelled, NumberOfCoaches, Type)

a) Find out the name of the train that covers the largest distance.
b) Find out the names of all the trains that run between Delhi to Mumbai.
c) Find out the Destination of all those trains that cover the distance less than the distance covered by 'Avadh Assam'.
d) Find out the names of the trains that have atleast n no.of coaches, where n is the number of coaches available in 'Rajdhani'.
e) Find out the names of all the superfast trains that cover more than 1000 km.

Q2. Consider a table Order (Order_No#, Purchase_Amt, Order_Date, Customer_Id, salesman_Id) to execute following queries:

a) to display the columns in a specific order like order date, salesman id, order number and purchase amount from for all the orders.
b) to display the order number followed by order date and the purchase amount for each order which will be delivered by the salesman who is holding the ID 5001.
c) to find the total purchase amount of all orders.
d) to get the maximum purchase amount of all the orders.
e) to get the maximum purchase amount of individual salesman.
f) find the highest purchase amount with their ID, for only those customers whose ID is within the range 3002 and 3007.

Q3. Consider following tables and execute following queries:
Order (Order_No#, Purchase_Amt, Order_Date, Customer_Id, Salesman_Id)
Salesman (Salesman_Id#, Name, City, Commission)
Customer (Customer_Id#, Cust_Name, Address, City, Gender)

a) find the highest purchase amount ordered by the each customer with their ID and highest purchase amount.
b) find all customers with all their orders and salesman.
c) find the highest purchase amount ordered by the each customer on a

particular date with their ID, order date and highest purchase amount.

d) find the highest purchase amount on a date '2012-08-17' for each salesman with their ID.
e) display all those orders by the customers not located in the same cities where their salesmen live.
f) prepare a list with salesman name, customer name and their cities for the salesmen and customer who belongs to the same city.
g) find all customers with their name, city, salesman and commission, who served by a salesman and the salesman works at a rate of the commission within 12% to 14%.
h) find the highest purchase amount with their ID and order date, for only those customers who have highest purchase amount in a day is more than 2000.

Q4. Consider tables given in Q3 and execute following queries to:

a) create a view for those salesmen belongs to the city New York.
b) create a view for all salesmen with columns salesman_id, name, and city.
c) create a view to keeping track the number of customers ordering, number of salesmen attached, average amount of orders and the total amount of orders in a day.
d) create a view that shows for each order the salesman and customer by name.
e) create a view that finds the salesman who has the customer with the highest order of a day.
f) to create a view that finds the salesman who has the customer with the highest order at least 3 times on a day.
g) create a view that shows the number of the salesman in each city.
h) create a view that shows the average and total orders for each salesman after his or her name. (Assume all names are unique)
i) create a view that shows the number of orders in each day.

Q5. Consider the following tables :

Candidate (SSNo#, Name, Address, Mobile, EmailId)
Bank (BName, BranchAddress#, No.OfAccounts)
Account (SSNo, BranchAddress, AccNo#)

Assume that a candidate has accounts in multiple banks. Find the names of the candidates who have accounts in more than 3 banks.

a) Find out the no. of branches of all the banks separately.
b) Find out all the account numbers of candidate 'Smith'.
c) Find out the names of those candidates who have no account in "SBI' bank.

Q6. Consider the following schema and write SQL statements for the following queries:

College (*CollegeCode*#, CName, NoOfCourses, Address, ContactNo)
Student (*Enrollmentno*#, SName, DOB, Rank, *CCode*)
CCode- Foreign Key based on College entity.
Rank – unique key

a) Display college wise listing of colleges with their total number of students enrolled.
b) List the students enrolled in BVICAM with rank less than 50.
c) Display the number of courses run by the college in which 'Sumita' is enrolled.
d) Display the details of students who enrolled in the month of AUGUST 2014.
e) Display details of colleges located in New Delhi.

Q7. Consider the following relations:

Employee (PAN, Name, Age, DeptNo)
Pay (PAN, Salary)
WorkOn (Pid, PAN)
Project (Pid, PName, Duration)

a) Write the following queries in relational algebra and SQL both :
b) Find the projects on which employees, whose salary is greater than 40000, are working.
c) Display the names and PAN no. of employees working on project pid p1.

Q8. Identify the candidate key & foreign keys for each table in the following bank database:

Deposit_sch(br_name,account_no,cust_name,amt)
Branch(br_name,assests,city)
Customer(cust_name,street,city)

Q9. Consider the database

Employee (e-name,street,city)
Company (c-name,city,c-loan)
Works (e-name,c-name,salary)
Manages(e-name,manager-name)
Using SQL answer following queries:

a) Find employee names who live in same city & on same street as do their managers.
b) Find count of employees staying in Delhi.
c) Give all mangers working in company "ABC",10% increase in salary.
d) Find all those company names, in which all Delhi employees work.

e) Find those companies in which at least one employee of Delhi based companies works.

Q10. Consider the following relations:
Student (SID, name, branch, marks, age)
Enrollment (student-id, class-name, position-no)
Class (name, time, room, max-allowed-students)
Using SQL, answer following queries:
Find all unique numbers of classes attended by student having id S403.

a) Get student names having marks greater than that of S201.
b) Find time & room of those classes, in which at least one student with age above than 15, attends the classes.
c) Find students not enrolled in MET-473 class.
d) For each hour, find total number of students who can possibly attend a class during that hour. Assume that every hour is identified by a distinct name.

Q11. Consider the following relations:
Primary Keys are indicated by #
Foriegn Keys are underlined.
Customer (PAN#, CName, Phone, Emailid, Address)
Vehicle (SerialNumber#, Name, Type, Model, Manufacturer)
Registration (PAN, SNo, DateofReg)
Vehicle_Service (SNo, ServiceNo, DateofService, Description, Charges) – Primary Key: (SNo, ServiceNo)
Now write SQL queries for the following:

a) List the names of all customers who have had their vehicle serviced that cost more than Rs. 1000.
b) List the names and email ids of all customers who have registered a vehicle of 'Suzuki'.
c) List the names of all customers who have registered a vehicle but who have not had that vehicle serviced.
d) List the customers who have serviced their vehicle at least once.
e) List the vehicle name and model which are serviced more than two times.

Q12. Write a PL/SQL block that allows all of the following SQL DML statements to execute, even if any of the others fail:
update emp set empno = 100 where empno > 5000;
delete from dept where deptno = 10;
delete from emp where deptno = 10;

Q13. Write a Cursor(PL/SQL code) to display the Student_name, Dateofbirth , Course, Marks whose marks is greater than 90, if not found then show the proper error message. (Use Exception handing).

Table : Student (Student_name, Dateofbirth , Course, Marks)

Q14. Create a procedure that accepts the customer id from the calling procedure and displays his/her record with all order details he placed in last month.
Table : Customer (Cid, CName, Order_id, Order_date, Amount)

Q15. Create a function that accepts the customer id from the calling procedure and displays total amount of all his/her orders.
Table : Customer (Cid, CName, Order_id, Order_date, Amount)

Q16. Create a trigger to store backup of old amount in back_up_customer_account if there is any withdrawn from the customer back amount of any customer in account_master_relation.

Q17. Create a row level trigger for the Book table that would fire UPDATE or DELETE operations performed on the Book table. The trigger should display the difference in price (old values and new values).
Table: Book (BCode, Bname, Author, Publisher, Price)

Q18. Consider the following schema and write the following queries in SQL:
College (*CollegeCode*#, CName, NoOfCourses, Address, ContactNo)
Student (*Enrollmentno*#, SName, DOB, DateOfEnrollment, Rank, *CCode*)
CCode- Foreign Key based on College entity.
Rank – unique key

a) Display names of colleges running more than three courses.
b) Display the names of top 10 students. (based on rank)
c) List the names of students studying in BVICAM.
d) List the address and contact number of the college in which 'Smith' is enrolled.
e) Display the details of students who enrolled after '01-JUL-2014'.

Q19. Consider the following schema:
Suppliers(sid: integer, sname: string, address: string)
Parts(pid: integer, pname: string, color: string)
Catalog(sid: integer, pid: integer, cost: real)
Using SQL answer the following queries:

a) Find the sids of suppliers who supply some red part or are at 221 Packer Street.
b) Find pairs of sids such that the supplier with the first sid charges more for some part than the supplier with the second sid.
c) Find the pids of parts supplied by at least two different suppliers.
d) Find the pids of the most expensive parts supplied by suppliers named Yosemite Sham.
e) Find the pids of parts supplied by every supplier at less than $200.