Lambton College In Toronto

Practice Exercise

[Total Marks: 100]

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CLASS: CSD2204
Database Design and SQL

Evaluation: 30%

Assume the following database design.

AC_MAST

ac_type	Account Type	VARCHAR(3)	Primary Key(1)
ac_no	Account Number	INTEGER(4)	Primary Key(2)
cust_no	Customer Number	INTEGER(5)	
bal	Current Balance	INTEGER(10,2)	
od_limit	Overdraft Limit	INTEGER(10,2)	

CUST_MAST

cust_no	Customer Number	INTEGER(5)	Primary Key
name	Customer Name	VARCHAR(50)	
addr1	Address Line 1	VARCHAR(50)	
addr2	Address Line 2	VARCHAR(50)	
addr3	Address Line 3	VARCHAR(50)	
city	City	VARCHAR(30)	
state	State	VARCHAR(20)	

TRANS

ac_type	Account Type	VARCHAR(3)	Primary Key(1)
ac_no	Account Number	INTEGER(4)	Primary Key(2)
tdate	Transaction Date	DATE	Primary Key(3)
counter	Counter number	INTEGER(2)	
amount	Transaction Amount	INTEGER(10,2)	
desc	Description	VARCHAR(30)	

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DEPT

dno	Department Number	INTEGER(3)	Primary Key
name	Department Name	VARCHAR(15)	
loc	Department Location	VARCHAR(20)	

EMP

empno	Employee Number	INTEGER(5)	Primary Key
name	Employee Name	VARCHAR(50)	
jdate	Joining Date	DATE	
dept	Department Number	INTEGER(3)	
desig	Designation	VARCHAR(20)	
basic	Basic Pay	INTEGER(10,2)	
da	Dearness Allowance	INTEGER(10,2)	
hra	House Rent Allow.	INTEGER(10,2)	
pf	Provident Fund	INTEGER(10,2)	
it	Income Tax	INTEGER(10,2)	

Queries:

1. Write CREATE TABLE statements for the above tables with all appropriate constraints. Enter a broad range of data in the tables.
2. Write a SELECT statement to display employee number, name, department number, designation, basic for all employees.
3. Write a SELECT statement to display employee number, name, department number, designation, salary(basic+da+hra-pf-it) for all employees.
4. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees in order of employee number.
5. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees in order of department number, employee number.
6. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees in descending order of salary.
7. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees in order of joining year.
8. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees of department number 5 in order of employee number.
9. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees drawing salary > 10000 in order of employee number.

10. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees whose names begin with 'J' in order of employee number.
11. Write a SELECT statement to display employee number, name, department number, department name, location, designation, salary in order of employee number.
12. Write a SELECT statement to display employee number, name, department number, designation, salary for all employees in location 'Building 1' in order of employee number.
13. Write a SELECT statement to display department number, department name, location, average, minimum and maximum salary given for that department in order of department number.
14. Write a SELECT statement to display the number, name, department, designation, salary for the employee getting maximum salary.
15. Write a SELECT statement to display account type, account number, customer name for all accounts in which there has been a transaction today.
16. Write a SELECT statement to display account type, account number, customer name for all accounts in which there has not been a transaction today.
17. Write a SELECT statement to display customer number, name, address for all customers having no accounts.
18. Write a SELECT statement to display customer number, name, address for all customers having more than one accounts.
19. Write a SELECT statement to display customer number, name, number of accounts, address for all customers having more than one accounts.
20. Write a SELECT statement to display name, department, designation, account type, account number for all employees having an account with the bank.
21. Write a SELECT statement to display names of all people who are either an employee of the organization or have an account with the bank.
22. Write a SELECT statement to display the names and type (Account Holder / Employee) of all people who are either an employee of the organization or have an account with the bank in ascending order of name.
23. Write a SQL statement to increase the basic of employee 'Master' by 1000.
24. Write a SQL statement to increase the basic of all employees of department 'MKTG' by 500.
25. Write a SQL statement to increase the basic of all employees of department 'MKTG' And 'FINANCE' by 500.
26. Write a SQL statement to increase the basic of all employees of all departments whose name begins with 'M' by 300.
27. Write a SQL statement to increase the basic of all employees by 10%.
28. Write a SQL statement to modify basics so that all managers get atleast as much basic as the clerk with highest basic.
29. Write a SQL statement to delete all salesmen in the MKTG department.

30. Write a SQL statement to remove all employees who are in service for less than a year.
31. Write a SQL statement to delete all employees who are in service for more than 30 years.
32. Create a table EMP2 with same structure as the EMP table but no data.
33. Change the type of employee number from INTEGER(5) to VARCHAR(6) in EMP2.
34. Bring only employee number, name, department number and designation into EMP2 from EMP.
35. Insert suitable data in the rest of the columns of EMP2.
36. Add a column status char (P or T only) to EMP2.
37. Make employee name the primary key of EMP2 (delete duplicate names first).
38. Set foreign key in EMP2.
39. Make employee number unique in EMP2.
40. Set the joining date of all employees whose joining date is not known to 01/01/70 in EMP2.
41. Remove table EMP2.
42. Create an index on column name in the table EMP.
43. Create an index on columns name, city in CUST_MAST.
44. Remove the index created in Q. 43.

Note:

1) Perform each SQL statement as required.
2) Write your queries in a file named as **CollegeID_CSD2204_Firstname_PE.docx**.
3) Also copy your MySQL command prompt content into file named as **CollegeID_CSD2204_Firstname_PE_mySQL.docx.**
4) Create a .zip file containing both the .docx files and upload it on Moodle for submission.