Topic : MySQL : Revision Tour, More on SQL

Q1 What is DBMS? What is the function of database management system ?

Q2 What is Data Model? Name various types of Data Model?

Q3 What is data redundancy? What are the problems associated with it?

Q4 Illustrate the difference between the three levels of data abstraction.

Q5 What is meant by "data independence"? What are types of Data Independence?

Q6.What is SQL?

Q7. Define various Relational Model Terminology

1. Relation 2. Tuple 3. Attribute 4. Degree 5. Cardinality

6. Primary Key 7. Candidate Key 8. Alternate Key 9. Foreign Key

Q8 What are various Integrity Constraints? Describe them?

Q9 How are SQL Statements Classified?

Q10.Create the following table

DEPT TABLE

Column Name	Type	SIZE	Constraint	Description
DEPTNO	INTEGER		PRIMARY KEY	DEPARTMENT NUMBER
DNAME	VARCHAR	20		NAME OF DEPARTMENT
LOC	VARCHAR	10		LOCATION OF DEPARTMENT

EMP TABLE

Column Name	Type	SIZE	Constraint	Description
EMPNO	INTEGER		PRIMARY KEY	EMPLOYEE NUMBER
ENAME	VARCHAR	20	NOT NULL	EMPLOYEE NAME
JOB	CHAR	10		DESIGNATION
MGR	INTEGER			RESPECTIVE MANGER'S EMPNO
HIREDATE	DATE			DATE OF JOINING
SAL	DECIMAL	9,2	>0	SALARY
COMM	INTEGER			COMMISSION

DEPTNO	INTEGER		FOREIGN KEY DEPT DEPTNO	DEPARTMENT NUMBER

Q11 On the basis of above table perform the following queries

a) List the employee belonging to the department 20 and working as salesman
b) List the employee number and name of mangers.
c) List the name of clerks working in department 20
d) List the details of the employees who have joined before the end of September 2014
e) List the names of employees who are not mangers.
f) List the name of employees whose employees numbers are 7369,7521,7839,7934,7788
g) List the employee name and salary whose salary is between 1000 and 2000.
h) List the employee name how have joined before 30 June 2014 and after Dec 2014
i) List the different job available in the emp table
j) List the employee who are not eligible for commission.
k) List the employee whose name start with "S"
l) List the name of employee whose name has 5 charcters.
m) List the name of employee having 'I" as second character.
n) List the empno, name and salary in ascending order of salary.
o) List the employee name and hiredate in descending order of hiredate.
p) List the employee name, salary, pf, hra, da and gross; order the result in ascending order of gross. Pf is 10% of salary, HRA is 50% of salary and da is 30% of salary.
q) List the number of employees working in emp table.
r) List the number of jobs available in emp table.
s) List the department number and the total salary payable in each department.
t) List the job and the number of employees in each job. The result should be in descending order of the number of employees.
u) List the total salary, maximum and minimum salary and the average salary of employees jobwise for department number 20 only.
v) List the average monthly salary for each job type within department.
w) List the average salary for all department employing more than 5 people.

x) List the total salary, maximum and minimum salary and the average salary of employee job wise for department number 20 and display only those rows having average salary greater than 1000 in ascending order of sum(sal).

y) List the employee number, name and department number and department name of clerks.

z) Display the total salary which is sum of salary and commission.

aa) Add a column address to the employee table

bb) Suppose the user forget to make empno as primary key and deptno as foreign key write the query to make such changes.

cc) Increase the size of salary from 9,2 to 15,2

dd) Drop the column address in the above table;

Q 12 Amit creates a database name contacts but he is not able to create the table. What command should be used before creating the table?

Q13 A table Student has 4 rows and 2 Column and another table has 3 rows and 4 columns. How many rows and columns will be there if we obtain the Cartesian product of these two tables?

Q14 Mr. Sanghi created two tables with City as Primary Key in Table1 and Foreign key in Table2 while inserting row in Table2 Mr Sanghi is not able to enter value in the column City. What is the possible reason for it?

Q15. What is difference between curdate() and date() functions?

Q16. There is column salary in table employee. The following two statements are giving different outputs. What may be the possible reasons?

Select count(*) from employee select count(salary) from employee

Q17. Give One difference between Rollback and Commit?

Q18. What is View?

Q19. TABLE: GRADUATE

S.NO	NAME	STIPEND	SUBJECT	AVERAGE	DIV.
1	KARAN	400	PHYSICS	68	I
2	DIWAKAR	450	COMP. Sc.	68	I

3	DIVYA	300	CHEMISTRY	62	I
4	REKHA	350	PHYSICS	63	I
5	ARJUN	500	MATHS	70	I
6	SABINA	400	CEHMISTRY	55	II
7	JOHN	250	PHYSICS	64	I
8	ROBERT	450	MATHS	68	I
9	RUBINA	500	COMP. Sc.	62	I
10	VIKAS	400	MATHS	57	II

(a) List the names of those students who have obtained DIV I sorted by NAME.

(b) Display a report, listing NAME, STIPEND, SUBJECT and amount of stipend received in a year assuming that the STIPEND is paid every month.

(c.) To count the number of students who are either PHYSICS or COMPUTER SC graduates.

(d) To insert a new row in the GRADUATE table 11,"KAJOL", 300, "COMP. SC.", 75, 1

(e) Give the output of following sql statement based on table GRADUATE:

i. Select MIN(AVERAGE) from GRADUATE where SUBJECT="PHYSICS";

ii. Select SUM(STIPEND) from GRADUATE WHERE div=2;

iii. Select AVG(STIPEND) from GRADUATE where AVERAGE>=65;

iv. Select COUNT(distinct SUBDJECT) from GRADUATE;

Assume that there is one more table GUIDE in the database as shown below:

Table: GUIDE

MAINAREA	ADVISOR
PHYSICS	VINOD
COMPUTER SC	ALOK
CHEMISTRY	RAJAN
MATHEMATICS	MAHESH

(f) What will be the output of the following query:

SELECT NAME, ADVISOR FROM GRADUATE,GUIDE WHERE SUBJECT= MAINAREA;

Q20. Write the SQL query commands based on following table

Table : Book

Book_id	Book name	Author_name	Publisher	Price	Type	Quantity
C0001	Fast Cook	Lata Kapoor	EPB	355	Cookery	5
F0001	The Tears	William Hopkins	First Publi.	650	Fiction	20
T0001	My First c++	Brain & Brooke	FPB	350	Text	10
T0002	C++ Brain works	A.W. Rossaine	TDH	350	Text	15
F0002	Thunderbolts	Anna Roberts	First Publ.	750	Fiction	50

Table : issued

Book_Id	Quantity Issued
T0001	4
C0001	5
F0001	2

Write SQL query for (a) to (f)

a. To show book name, Author name and price of books of First Pub. Publisher
b. To list the names from books of text type
c. To Display the names and price from books in ascending order of their prices.
d. To increase the price of all books of EPB publishers by 50.
e. To display the Book_Id, Book_name and quantity issued for all books which have been issued
f. To insert a new row in the table issued having the following data. 'F0003', 1
g. Give the output of the following

I. Select Count(*) from Books
II. Select Max(Price) from books where quantity >=15
III. Select book_name, author_name from books where publishers='first publ.'
IV. Select count(distinct publishers) from books where Price>=400

Q21. Write the SQL commands for the (i) to (iv) and write the output of the (v) to (viii) on the basis of table CLUB. Table: CLUB

COACH_ID	COACHNAME	AGE	SPORTS	DATOFAPP	PAY	SEX
1	KUKREJA	35	KARATE	27/03/1996	10000	M
2	RAVINA	34	KARATE	20/01/1997	12000	F

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3	KARAN	34	SQUASH	19/02/1998	20000	M
4	TARUN	33	BASKETBALL	01/01/1998	15000	M
5	ZUBIN	36	SWIMMING	12/01/1998	7500	M
6	KETAKI	36	SWIMMING	24/02/1998	8000	F
7	ANKITA	39	SQUASH	20/02/1998	22000	F
8	ZAREEN	37	KARATE	22/02/1998	11000	F
9	KUSH	41	SWIMMING	13/01/1998	9000	M
10	SHAILYA	37	BASKETBALL	19/02/1998	17000	M

a. To show all information about the swimming coaches in the club.

b. To list names of all coaches with their date of appointment (DATOFAPP) in descending order.

c. To display a report, showing coachname, pay, age and bonus (15% of pay) for all the coaches.

d. To count the number of coaches in each sports.

e. Give the output of following SQL statements:

I. SELECT COUNT(DISTINCT SPORTS) FROM CLUB;

II. SELECT SUM(PAY) FROM CLUB WHERE DATOFAPP>'31/01/1998';

III. SELECT LCASE(SPORTS) FROM CLUB;

IV. SELECT MOD(AGE,5) FROM CLUB WHERE SEX= 'F';

Q22 . Write SQL queries for (i) to (iv) and find outputs for SQL queries (v) to (viii), which are based on the tables.

Table: ACCOUNT

ANO	ANAME	ADDRESS
101	Nirja Singh	Bangalore
102	Rohan Gupta	Chennai
103	Ali Reza	Hyderabad
104	Rishabh Jain	Chennai
105	Simran Kaur	Chandigarh

Table: TRANSACT

TRNO	ANO	AMOUNT	TYPE	DOT
T001	101	2500	Withdraw	2017-12-21
T002	103	3000	Deposit	2017-06-01
T003	102	2000	Withdraw	2017-05-12
T004	103	1000	Deposit	2017-10-22
T005	101	12000	Deposit	2017-11-06

(i)To display details of all transactions of TYPE Deposit from Table TRANSACT

(ii)To display the ANO and AMOUNT of all Deposits and Withdrawals done in the month of October 2017 from table TRANSACT.

(iii)To display the last date of transaction (DOT) from the table TRANSACT for the Accounts having ANO as 103.

(iv)To display all ANO, ANAME and DOT of those persons from tables ACCOUNT and TRANSACT who have done transactions less than or equal to 3000.

(v) SELECT ANO, ANAME FROM ACCOUNT WHERE ADDRESS NOT IN ('CHENNAI', 'BANGALORE');

(vi)SELECT DISTINCT ANO FROM TRANSACT;

(vii)SELECT ANO, COUNT(*), MIN(AMOUNT) FROM TRANSACT GROUP BY ANO HAVING COUNT(*)> 1;

(viii) SELECT COUNT(*), SUM(AMOUNT) FROM TRANSACT WHERE DOT <= '2017-06-01';

(ix) identify the foreign key.

Q23. What are indexes