Database Query using SQL Class 12 Important Questions

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Q. What constraint should be applied on a table column so that duplicate values are not allowed in that column, but NULL is allowed.

Answer: UNIQUE

Q. What constraint should be applied on a table column so that NULL is not allowed in that column, but duplicate values are allowed.

Answer: NOT NULL

Q. Write an SQL command to remove the Primary Key constraint from a table, named MOBILE. M_ID is the primary key of the table.

Answer: ALTER TABLE MOBILE DROP PRIMARY KEY;

Q. Write an SQL command to make the column M_ID the Primary Key of an already existing table, named MOBILE.

Answer: ALTER TABLE MOBILE ADD PRIMARY KEY (M_ID);

Q. Consider the table ORDERS as given below

O_Id	C_Name	Product	Quantity	Price
1001	Jitendra	Laptop	1	12000
1002	Mustafa	Smartphone	2	10000
1003	Dhwani	Headphone	1	1500

Note: The table contains many more records than shown here.

A) Write the following queries:

a. To display the total Quantity for each Product, excluding Products with total Quantity less than 5.

Answer:

```
SELECT Product, SUM(Quantity)
FROM Orders
GROUP BY Product
HAVING SUM(Quantity) >= 5;
```

b. To display the orders table sorted by total price in descending order.

Answer:

```
SELECT * FROM Orders
ORDER BY Price DESC;
```

c. To display the distinct customer names from the Orders table.

Answer:

```
SELECT DISTINCT C_Name FROM Orders;
```

d. Display the sum of Price of all the orders for which the quantity is null.

Answer:

```
SELECT SUM(Price) AS Total_Price
FROM Orders
WHERE Quantity IS NULL;
```

B) Write the output

a. Select c_name, sum(quantity) as total_quantity from orders group by c_name;

Answer:

```
C_Name   | Total_Quantity
---------|---------------
Jitendra | 1
Mustafa  | 2
Dhwani   | 1
```

b. Select * from orders where product like '%phone%';

Answer:

```
O_Id | C_Name  | Product      | Quantity | Price
-----|---------|--------------|----------|-------
1002 | Mustafa | Smartphone   | 2        | 10000
1003 | Dhwani  | Headphone    | 1        | 1500
```

c. Select o_id, c_name, product, quantity, price from orders where price between 1500 and 12000;

Answer:

```
(III) O_Id | C_Name   | Product      | Quantity | Price
-----------|----------|--------------|----------|-------
1001       | Jitendra | Laptop       | 1        | 12000
1002       | Mustafa  | Smartphone   | 2        | 10000
1003       | Dhwani   | Headphone    | 1        | 1500
```

d. Select max(price) from orders;

```
MAX(Price)
----------
12000
```

Q. Saman has been entrusted with the management of Law University Database. He needs to access some information from FACULTY and

COURSES tables for a survey analysis. Help him extract the following information by writing the desired SQL queries as mentioned below.

Table: **FACULTY**

F_ID	FName	LName	Hire_Date	Salary
102	Amit	Mishra	12-10-1998	12000
103	Nitin	Vyas	24-12-1994	8000
104	Rakshit	Soni	18-5-2001	14000
105	Rashmi	Malhotra	11-9-2004	11000
106	Sulekha	Srivastava	5-6-2006	10000

Table: **COURSES**

C_ID	F_ID	CName	Fees
C21	102	Grid Computing	40000
C22	106	System Design	16000

a. To display complete details (from both the tables) of those Faculties whose salary is less than 12000.

```
SELECT *
FROM FACULTY
NATURAL JOIN COURSES
WHERE Salary < 12000;
```

b. To display the details of courses whose fees is in the range of 20000 to 50000 (both values included).

```
SELECT * FROM COURSES
WHERE Fees BETWEEN 20000 AND 50000;
```

c. To increase the fees of all courses by 500 which have “Computer” in their Course names.

```
UPDATE COURSES
SET Fees = Fees + 500
WHERE CName LIKE '%Computer%';
```

d. To display names (FName and LName) of faculty taking System Design.

```
SELECT FName, LName
FROM FACULTY
```

```
NATURAL JOIN COURSES
WHERE CName = 'System Design';
```

e. To display the Cartesian Product of these two tables.

```
SELECT * FROM FACULTY, COURSES;
```

Q. Ms. Shalini has just created a table named "Employee" containing columns Ename, Department and Salary. After creating the table, she realized that she has forgotten to add a primary key column in the table. Help her in writing an SQL command to add a primary key column EmpId of integer type to the table Employee. Thereafter, write the command to insert the following record in the table:

- EmpId- 999
- Ename- Shweta
- Department: Production
- Salary: 26900

Answer:

SQL Command to add primary key:

```
ALTER TABLE Employee ADD EmpId INTEGER NOT NULL PRIMARY KEY;
```

As the primary key is added as the last field, the command for inserting data will be:

```
INSERT INTO Employee VALUES("Shweta","Production",26900,999);
```

Q. Zack is working in a database named SPORT, in which he has created a table named "Sports" containing columns SportId, SportName, no_of_players, and category. After creating the table, he realized that the attribute, category has to be deleted from the table and a new attribute TypeSport of data type string has to be added. This attribute TypeSport

cannot be left blank. Help Zack write the commands to complete both the tasks.

Answer:

To delete the attribute, category:

```
ALTER TABLE Sports DROP category;
```

To add the attribute, TypeSport

```
ALTER TABLE Sports ADD TypeSport char(10) NOT NULL;
```

Q. Consider the table CLUB given below and write the output of the SQL queries that follow.

CID	CNAME	AGE	GENDER	SPORTS	PAY	DOAPP
5246	AMRITA	35	FEMALE	CHESS	900	2006-03-27
4687	SHYAM	37	MALE	CRICKET	1300	2004-04-15
1245	MEENA	23	FEMALE	VOLLEYBALL	1000	2007-06-18
1622	AMRIT	28	MALE	KARATE	1000	2007-09-05
1256	AMINA	36	FEMALE	CHESS	1100	2003-08-15
1720	MANJU	33	FEMALE	KARATE	1250	2004-04-10
2321	VIRAT	35	MALE	CRICKET	1050	2005-04-30

a. SELECT COUNT(DISTINCT SPORTS) FROM CLUB;

COUNT(DISTINCT SPORTS)
4

b. SELECT CNAME, SPORTS FROM CLUB WHERE DOAPP<“2006-04-30” AND CNAME LIKE “%NA”;

CNAME	SPORTS
AMINA	CHESS

c. SELECT CNAME, AGE, PAY FROM CLUB WHERE GENDER = “MALE” AND PAY BETWEEN 1000 AND 1200;

CNAME	AGE	PAY
AMRIT	28	1000
VIRAT	35	1050

Q. Consider the table Personal given below:

Table: Personal

P_ID	Name	Desig	Salary	Allowance
P01	Rohit	Manager	89000	4800
P02	Kashish	Clerk	NULL	1600
P03	Mahesh	Superviser	48000	NULL
P04	Salil	Clerk	31000	1900
P05	Ravina	Superviser	NULL	2100

Based on the given table, write SQL queries for the following:

a. Increase the salary by 5% of personals whose allowance is known.

```
UPDATE Personal
SET Salary=Salary + Salary*0.5
WHERE Allowance IS NOT NULL;
```

b. Display Name and Total Salary (sum of Salary and Allowance) of all personals. The column heading 'Total Salary' should also be displayed.

```
SELECT Name, Salary + Allowance AS
"Total Salary" FROM Personal;
```

c. Delete the record of personals who have salary greater than 25000

```
DELETE FROM Personal
WHERE Salary>25000
```

Q. Consider the tables PRODUCT and BRAND given below:

Table: PRODUCT

PCode	PName	UPrice	Rating	BID
P01	Shampoo	120	6	M03
P02	Toothpaste	54	8	M02
P03	Soap	25	7	M03
P04	Toothpaste	65	4	M04
P05	Soap	38	5	M05
P06	Shampoo	245	6	M05

Table: BRAND

BID	BName
M02	Dant Kanti
M03	Medimix
M04	Pepsodent
M05	Dove

Write SQL queries for the following:

a. Display product name and brand name from the tables PRODUCT and BRAND.

```
SELECT PName, BName FROM PRODUCT P,
```

```
BRAND B WHERE P.BID=B.BID;
```

b. Display the structure of the table PRODUCT.

```
DESC PRODUCT;
```

c. Display the average rating of Medimix and Dove brands

```
SELECT BName, AVG(Rating) FROM PRODUCT
P, BRAND B
WHERE P.BID=B.BID
GROUP BY BName
HAVING BName='Medimix' OR
BName='Dove';
```

d. Display the name, price, and rating of products in descending order of rating.

```
SELECT PName, UPrice, Rating
FROM PRODUCT
 ORDER BY Rating DESC;
```

Q. Define the term Domain with respect to RDBMS. Give one example to support your answer.

Answer: Domain is a set of values from which an attribute can take value in each row. For example, roll no field can have only integer values and so its domain is a set of integer values

Q. Give one difference between alternate key and candidate key.

Answer: All keys that have the properties to become a primary key are candidate keys. The candidate keys that do not become primary keys are alternate keys.