SQL Lab Work -1

Subimission Date: 14.03.2024

Q: 1.

Practical – Assignment -1

1. Create table client_master
   (clientno, name, address1, address2,city,pincode,state,bal_due
2. Create table product_master
   (pno , description, profir_percent, unit_measure, quantity,
   sell_price, cost_price
3. Create table salesman_master
   (smno , sname , address1, address2, city , pincode , state, sal_amount
   , target_no, ytd_sale , remarks)

1. Find out the names of all the clients
2. Retrieve the entire content of the clientmaster table
3. Change the city of clientno 005 to Bombay
4. Retrieve the list of names and the cities of all the clients
5. List the various products available from the productmaster
6. List all the clients who are located in Bombay
7. Fine the names of the salesman who have salary equal to Rs 3000
8. Change the baldue of clientno 001 to Rs 10000
9. Change the city of the salesman to Mumbai.
10. Delete all saleman from salesman master whose salary are equal to Rs 3500
11. Delete all products from productmaster where the quantity on hand is equal to 100
12. Delete from clientmaster where the column state holds the value ‘Tamil Nadu’
13. Add a column called telephone with size 10 to clientmaster
14. Change the size of sellprice with (10,2)
15. Destroy the table client master along with its data
16. Change the name of the salesmanmaster to sman_mast
17. Update salary with 25% of salemanmaster

Q: 2.

salesman

salesman_id	name	city	commission
5001	James Hoog	New York	0.15
5002	Nail Knite	Paris	0.13
5005	Pit Alex	London	0.11
5006	Mc Lyon	Paris	0.14
5003	Lauson Hen		0.12
5007	Paul Adam	Rome	0.13

customer

customer_id	customer_name	city	grade	salesman_id
3002	Nick Rimando	New York	100	5001
3005	Graham Zusi	California	200	5002
3001	Brad Guzan	London		
3004	Fabian Johns	Paris	300	5006
3007	Brad Davis	New York	200	5001
3009	Geoff Camero	Berlin	100	
3008	Julian Green	London	300	5002
3003	Jozy Altidor	Moncow	200	5007

order

order_no	purch_amt	order_date	customer_id	salesman_id
70001	150.5	2016-10-05	3005	5002
70009	270.65	2016-09-10	3001	
70002	65.26	2016-10-05	3002	5001
70004	110.5	2016-08-17	3009	
70007	948.5	2016-09-10	3005	5002
70005	2400.6	2016-07-27	3007	5001
70008	5760	2016-09-10	3002	5001
70010	1983.43	2016-10-10	3004	5006
70003	2480.4	2016-10-10	3009	
70012	250.45	2016-06-27	3008	5002
70011	75.29	2016-08-17	3003	5007

4.	Display name and commission of all the salesmen
5.	Retrieve salesman id of all salesmen from orders table without any repeats.
6.	Display names and city of salesman, who belongs to the city of Paris.

7.	Display all the information for those customers with a grade of 200.
8.	• Display the order number, order date and the purchase amount for order(s) which will be delivered by the salesman with ID 5001.

9.	Display all the details of customers whose name is whose name is start with nick.
10.	Display all the details of customers whose name is whose name is not start with B
11.	Display all the customers, who are either belongs to the city New York or not had a grade above 100.
12.	Find those salesmen with all information who gets the commission within a range of 0.12 and 0.14.
13.	Find all those customers with all information whose names are ending with the letter 'n'.
14.	Find those salesmen with all information whose name containing the 1st character is 'N' and the 4th character is 'l' and rests may be any character.
15.	Find that customer with all information who does not get any grade except NULL
16.	Find the total purchase amount of all orders.
17.	Find the number of salesman currently listing for all of their customers
18.	Find the highest grade for each of the cities of the customers.
19.	Find the highest purchase amount ordered by the each customer on a particular date with their ID, order date and highest purchase amount
20.	Find the highest purchase amount on a date '2012-08-17' for each salesman with their ID
21.	Find the highest purchase amount with their customer ID and order date, for only those customers who have the highest purchase amount in a day is more than 2000.
22.	Write a SQL statement that counts all orders for a date August 17th, 2012.
23.	Find the name and city of those customers and salesmen who lives in the same city.
24.	Find the names of all customers along with the salesmen who works for them.
25.	Display all those orders by the customers not located in the same cities where their salesmen live.
26.	Display all the orders issued by the salesman 'Paul Adam' from the orders table.
27.	Display all the orders which values are greater than the average order value for 10th October 2012.
28.	Find all orders attributed to salesmen in Paris.
29.	Display customer name is upper case

Q; 3.

What are the SQL?

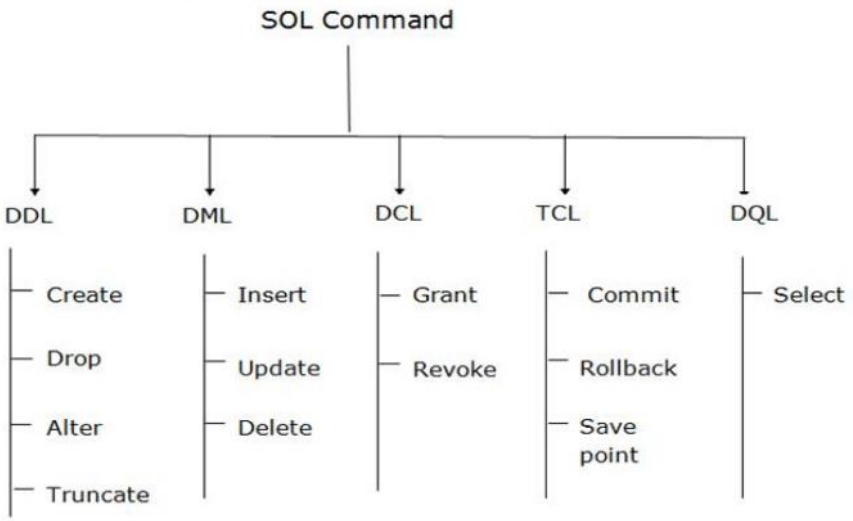
SQL follows the following rules:

- Structure query language is not case sensitive. Generally, keywords of SQL are written in uppercase.
- Statements of SQL are dependent on text lines. We can use a single SQL statement on one or multiple text line.
- Using the SQL statements, you can perform most of the actions in a database.
- SQL depends on tuple relational calculus and relational algebra.

Q: 4.

Types of SQL Commands

- There are five types of SQL commands: DDL, DML, DCL, TCL, and DQL.



Q: 5.	**Data Definition Language (DDL)** • DDL changes the structure of the table like creating a table, deleting a table, altering a table, etc. • All the command of DDL are auto-committed that means it permanently save all the changes in the database. • Here are some commands that come under DDL: ➢ CREATE ➢ ALTER ➢ DROP ➢ TRUNCATE ➢ Rename
Q: 6.	Syntax and example of each topic in Q.5
Q:7	**Data Manipulation Language** • DML commands are used to modify the database. It is responsible for all form of CHANGES in the database. • The command of **DML is not auto-committed** that means it can't permanently save all the changes in the database. They can be rollback. Here are some commands that come under DML: ➢ **INSERT** ➢ **UPDATE** ➢ **DELETE**
Q:8	Syntax and example of each topic in Q.7

Q:9	# Data Query Language DQL is used to fetch the data from the database. It uses only one command: SELECT **a. SELECT:** This is the same as the projection operation of relational algebra. It is used to select the attribute based on the condition described by WHERE clause. **Syntax:** SELECT expressions FROM TABLES WHERE conditions; **Example:** SELECT emp_name FROM employee WHERE age > 20;
Q:10	Raj is a database programmer, He has to write the query from EMPLOYEE table to search for the employee whose name begins from letter 'R', for this he has written the query as: SELECT * FROM EMPLOYEE WHERE NAME='R%'; But the query is not producing the correct output, help Raj and correct the query so that he gets the desired output.
Q:11	Raj is a database programmer, He has to write the query from EMPLOYEE table to search for the employee who are not getting any commission, for this he has written the query as: SELECT * FROM EMPLOYEE WHERE commission=null; But the query is not producing the correct output, help Raj and correct the query so that he gets the desired output.
Q:12	Raj is a database programmer, has to write the query from EMPLOYEE table to search for the employee who are working in 'Sales' or 'IT' department, for this he has written the query as: SELECT * FROM EMPLOYEE WHERE department='Sales' or 'IT'; But the query is not producing the correct output, help Raj and correct the query so that he gets the desired output.
Q:13	Query to delete all record of table without deleting the table: a. DELETE TABLE TABLE_NAME b. DELETE FROM TABLE_NAME c. DROP TABLE TABLE_NAME d. DELETE TABLE FROM TABLE_NAME
Q:14	Suppose a table BOOK contain columns (BNO, BNAME, AUTHOR, PUBLISHER), Raj is assigned a task to see the list of publishers, when he executed the query as: SELECT PUBLISHER FROM BOOK; He noticed that the same publisher name is repeated in query output. What could be possible solution to get publisher name uniquely? Rewrite the following query to fetch unique publisher names from table.
Q:15	**a) In a database there are two tables :**

Table : Item

ICode	IName	Price	Color	VCode
S001	Mobile Phones	30000	Silver	P01
S002	Refrigerator	20000	Cherry	P02
S003	TV	45000	Black	P03
S004	Washing Machine	12000	White	P04
S005	Air Conditioner	50000	White	P05

Table : Vendor

VCode	VName
P01	Rahul
P02	Mukesh
P03	Rohan
P04	Kapil

(i) To display ICode, IName and VName of all the vendors, who manufacture "Refrigerator".
(ii) To display IName, ICode, VName and price of all the products whose price >=23000
(iii) To display Vname and IName manufactured by vendor whose code is "P04".

Q:16

Based on the table CLUB write SQL commands and Output for each of the following statements:

COACH ID	COACH NAME	AGE	SPORTS	DATOFAPP	PAY
1	KUNAL	36	KARATE	1996-03-27	4000
2	RAVINA	34	KARATE	1998-01-20	4200
3	KARAN	34	SQUASH	1998-02-19	5000
4	TARUN	33	BASKET BALL	1998-01-01	2500
5	ZUBIN	36	SWIMMING	1997-01-12	3000
6	KANAKA	35	SWIMMING	1997-02-24	2750

Input Date in this format

INSERT INTO dtdemo (rno, bdate) VALUES (12, TO_DATE('2024-02-28', 'YYYY-MM-DD'));

Or

INSERT INTO dtdemo VALUES (&rno, TO_DATE('&bdate', 'YYYY-MM-DD'));

Note: You have to use your columns

1. To display ID, name and age of all coaches whose age is greater than 35
2. To display the ID, name and age of all coaches whose names start with 'K'
3. Add column Gender with only (M or F)

	4. To display the name and salary of all the male coaches having age lesser than 36 5. To display the details of the SQUASH and BASKETBALL coaches. 6. To display the names of and sport of coaches whose DATOFAPP is between '1997-02-01' and '1998-02-01' 7. To display the total payment and number of coaches in each sport 8. To display the details of the coaches having pay greater than 3500 in the ascending order of names. 9. To increase the pay of all the coaches by 750 whose pay is less than 3000 10. To change the field COACHNAME to CNAME
Q:17	**SQL Sub Query** A Subquery is a query within another SQL query and embedded within the WHERE clause. **Important Rule:** • A subquery can be placed in a number of SQL clauses like WHERE clause, FROM clause, HAVING clause. • You can use Subquery with SELECT, UPDATE, INSERT, DELETE statements along with the operators like =, <, >, >=, <=, IN, BETWEEN, etc. • A subquery is a query within another query. The outer query is known as the main query, and the inner query is known as a subquery. • Subqueries are on the right side of the comparison operator. • A subquery is enclosed in parentheses. • In the Subquery, ORDER BY command cannot be used. But **GROUP BY command can be used** to perform the same function as ORDER BY command.

Q:18

Subqueries with the Select Statement

SQL subqueries are most frequently used with the Select statement.

Syntax:

```
SELECT column_name
FROM table_name
WHERE column_name expression operator
( SELECT column_name  from table_name WHERE ... );
```

Example:

```
SELECT *
  FROM EMPLOYEE
  WHERE ID IN (SELECT ID
  FROM EMPLOYEE
  WHERE SALARY > 4500);
```

Q:19

GROUP BY

- SQL GROUP BY statement is used to arrange identical data into groups.
- The GROUP BY statement is used with the SQL SELECT statement.
- The GROUP BY statement follows the WHERE clause in a SELECT statement and precedes the ORDER BY clause.
- The GROUP BY statement is used with aggregation function.

Syntax

```
SELECT column
FROM table_name
WHERE conditions
GROUP BY column
ORDER BY column
```

Example

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_MAST
GROUP BY COMPANY;
```

Q:20

HAVING

- HAVING clause is used to specify a search condition for a group or an aggregate.
- Having is used in a GROUP BY clause. If you are not using GROUP BY clause then you can use HAVING function like a WHERE clause

Syntax

```
SELECT column1, column2  FRO
M table_name
WHERE conditions
GROUP BY column1, column2
HAVING conditions
ORDER BY column1, column2;
```

Example

```
SELECT COMPANY, COUNT(*)
FROM PRODUCT_MAST
GROUP BY COMPANY
HAVING COUNT(*)>2;
```

Q:21

ORDER BY

- The ORDER BY clause sorts the result-set in ascending or descending order.
- It sorts the records in ascending order by default. DESC keyword is used to sort the records in descending order.

Syntax

```
SELECT column1, column2
FROM table_name
WHERE condition
ORDER BY column1, column2... AS
C|DESC;
```

Example

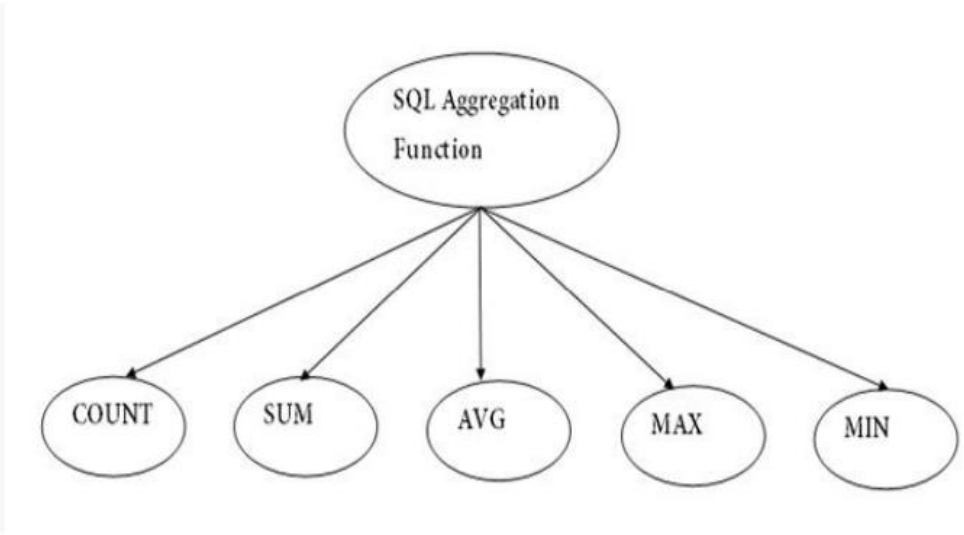
```
SELECT *
FROM CUSTOMER
ORDER BY NAME;
```

OR

```
SELECT *
FROM CUSTOMER
ORDER BY NAME DESC;
```

Q:21

SQL Aggregate Functions



Example of Each Function with any of the Database

Q:22

Querise From database in which we have Following Tables with Constraints

Client_master ,
Salesman_master,
Product_master,
Salesman_order,
Sales_order_details

a.	Find the name of all clients having 'a' as the second letter in their names
b.	Find out the clients who stay in a city whose second letter is 'a'
c.	Find the list of all clients who stay in 'Bombay' or 'Delhi'
d.	Print the list of clients whose bal_due is greate than value 10000
f.	Display the order information for cno C0001 and C0002
g.	Find products whose selling price is greater than 2000 and less than or equal to 5000
h.	Find products whose selling price is more than 1500. Calculate a new selling price as original price * 0.15. rename the new column in the above query as new_price
i.	List the names, city and state of clients who are not in the state of 'Maharashtra'
j.	Count total number of orders
k.	Calculate tha average price of all the products
l.	Determine the maximum and minimum product price. Rename the output max_price and min_price respectively
m.	Count the number of products having greater price greater than or equal to 1500

aa. Display the structure of Sales_Order table

bb. Retrieve the contents of the columns pno, description, profit, sellprice from table product master where the values contained in the field profitper is between 10 and 20 both inclusive

cc. Retrieve the contents of the columns pno, description, profit, sellprice from table product master where the values contained in the field profitper is between between 10 and 20 both inclusive

dd. Retrieve specified client information for the clients who are not in Bombay or delhi

ee. Display avg and sum of total product rate, display maximum and minimum quantity from sales order details

ff. Create view from client master where add clientno, name and bal whose bal is greater than 15000

gg. Retrieve the client information like cno,name,add1,add2,city,pincode for all the clients where the field pincode has the value 400054 or 40057.

hh. Retrieve the sno, sname, add1, city , pincode from the salesman where either kiran or mansih or ram or Rahul

ii. Retrieve the sno, sname, add1, city , pincode from the salesman where neither kiran or mansih or ram or Rahul.

jj. Display todays date

kk. Input any three negative values in qty_disp in sales order details