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Class : AIA-3

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Subject: DBMS LAB

Batch : B

ASSIGNMENT NO: 02

AIM: Data Definition Commands for creating database and tables (relations)

- A. Create a Table for Manufacturing industry / Hospital/ Company with min 5 columns add primary key.
- B. Alter any one column from the above table.
- C. Rename two columns from the above table
- D. Truncate the table
- E. Drop the table.

INDEX TERMS: DDL, DML, PL/SQL Stored Procedure, functions

CLI Screenshots:

```
mysql> create database bhavani;  
Query OK, 1 row affected (0.01 sec)
```

```
mysql> show databases;
```

Database
bhavani
information_schema
mysql
performance_schema
sys

```
5 rows in set (0.00 sec)
```

```
mysql> use bhavani;
```

```
Database changed
```

```
mysql> create table company(ID int NOT NULL PRIMARY KEY, Name varchar(10) NOT NULL, Address
```

```
varchar(10) NOT NULL,Email varchar(10) NOT NULL,Phone_no int(10) NOT NULL);
```

```
Query OK, 0 rows affected, 1 warning (0.02 sec)
```

```
mysql> desc company;
```

Field	Type	Null	Key	Default	Extra
ID	int	NO	PRI	NULL	
Name	varchar(10)	NO		NULL	
Address	varchar(10)	NO		NULL	
Email	varchar(10)	NO		NULL	
Phone_no	int	NO		NULL	

```
5 rows in set (0.02 sec)
```

```
mysql> alter table company add(city varchar(10) NOT NULL);
```

```
Query OK, 0 rows affected (0.02 sec)
```

```
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc company;
```

Field	Type	Null	Key	Default	Extra
ID	int	NO	PRI	NULL	
Name	varchar(10)	NO		NULL	
Address	varchar(10)	NO		NULL	
Email	varchar(10)	NO		NULL	
Phone_no	int	NO		NULL	
city	varchar(10)	NO		NULL	

```
6 rows in set (0.00 sec)

mysql> alter table comapny rename city to State;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'to State' at line 1
mysql> alter table comapny rename column city to State;
ERROR 1146 (42S02): Table 'bhavani.comapny' doesn't exist
mysql> alter table company rename column city to State;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> alter table company rename column Email to Email_ID;
Query OK, 0 rows affected (0.01 sec)
Records: 0 Duplicates: 0 Warnings: 0
```

```
mysql> desc company;
```

Field	Type	Null	Key	Default	Extra
ID	int	NO	PRI	NULL	
Name	varchar(10)	NO		NULL	
Address	varchar(10)	NO		NULL	
Email_ID	varchar(10)	NO		NULL	
Phone_no	int	NO		NULL	
State	varchar(10)	NO		NULL	

```
6 rows in set (0.00 sec)
```

```
mysql> truncate table company;
Query OK, 0 rows affected (0.01 sec)

mysql> desc company;
```

Field	Type	Null	Key	Default	Extra
ID	int	NO	PRI	NULL	
Name	varchar(10)	NO		NULL	
Address	varchar(10)	NO		NULL	
Email_ID	varchar(10)	NO		NULL	
Phone_no	int	NO		NULL	
State	varchar(10)	NO		NULL	

```
6 rows in set (0.00 sec)

mysql> drop company;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'company' at line 1
mysql> drop table company;
Query OK, 0 rows affected (0.01 sec)

mysql> desc company;
ERROR 1146 (42S02): Table 'bhavani.company' doesn't exist
mysql> |
```

Exercise :

Evaluate query for following questions and perform operations Classicmodels database.

1) Report those payments greater than 100000;

Ans) SELECT * FROM payments WHERE amount > 100000;

2) Report total payments for october 28, 2004;

Ans) SELECT SUM(amount) AS total_payments FROM payments WHERE paymentDate = '2004-10-28';

3) What is the minimum payment received?

Ans) SELECT MIN(amount) AS min_payment FROM payments;

4) How many employees are there in the company?

Ans) SELECT COUNT(*) AS employee_count FROM employees;

5) List the product lines that contain "Cars";

Ans) SELECT DISTINCT productLine FROM products WHERE productLine LIKE '%Cars%';

6) How many products in each product line? (stored procedure)

Ans) EXEC GetProductCountByProductLine;

7) What are the names of executives with VP or Manager in their title?

Ans) SELECT firstName, lastName FROM employees WHERE jobTitle LIKE '%VP%' OR jobTitle LIKE '%Manager%';

8) What is the average percentage markup of the MSRP on buyPrice?

Ans) SELECT AVG((MSRP - buyPrice) / buyPrice) * 100 AS average_markup_percentage FROM products;

9) Which orders have a value greater than \$5000?

Ans) SELECT orderNumber, (quantityOrdered * priceEach) AS orderValue FROM orderdetails HAVING orderValue > 5000;

10) List the value of "On Hold"; orders

Ans) SELECT orderNumber, (quantityOrdered * priceEach) AS orderValue FROM orders JOIN orderdetails USING (orderNumber) WHERE status = 'On Hold';

11) Report the number of orders "On Hold"; for each customer.

Ans) SELECT customerName, COUNT(*) AS num_on_hold_orders FROM customers JOIN orders USING (customerNumber) WHERE status = 'On Hold' GROUP BY customerName;

12) Who are the employees in Boston?

Ans) SELECT employeeNumber, firstName, lastName FROM employees WHERE officeCode = '2';

13) Report the products that have not been sold

Ans) SELECT productCode, productName FROM products LEFT JOIN orderdetails USING (productCode) WHERE orderNumber IS NULL;

14) Compute the commission for each sales representative, assuming the commission is 5% of the value of an order. Sort by employee last name and first name

**Ans) SELECT employeeNumber, firstName, lastName, SUM(quantityOrdered * priceEach * 0.05) AS commission
FROM employees JOIN customers ON employees.employeeNumber = customers.salesRepEmployeeNumber JOIN orders
USING (customerNumber) JOIN orderdetails USING (orderNumber) GROUP BY employeeNumber, firstName, lastName
ORDER BY lastName, firstName;**

FAQs:

1. What do you understand by a subquery? When is it used?

Ans) A subquery is a query that is embedded in the WHERE clause of another SQL query. In other words, it is a query within another query. Subqueries can be used with SELECT, UPDATE, INSERT, DELETE statements along with expression operator. It could be equality operator or comparison operator such as =, >, <, <= and Like operator.

2. What is the difference between FUNCTION and PROCEDURE in PL/SQL

Ans) In PL/SQL, a procedure is a named PL/SQL block which performs one or more tasks. It may or may not return a value. On the other hand, a function is a named PL/SQL block which performs a specific action.

3. What is the difference between cross joins and natural joins?

Ans) In SQL, a cross join will produce the cross or Cartesian product of two tables if there is no condition specified. The resulting table will contain all the attributes of both the tables including duplicate or common columns also. On the other hand, a natural join joins two tables based on the same attribute name and datatypes.

Conclusion:

Out come of the experiment is understanding of

- Implement DDL,DML Statements, aggregate functions, all types of Joins.
- Implement Sub-Queries, PLSQL Stored procedure & Functions