Task 5 - using clauses (operators) in queries

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Title: Implementation of DML commands using clauses (operators) and functions in queries

1) Insert Table
2) Select Table
3) Update Table
4) Delete Table

Objection:
To understand the different issues involved in the design and implementation of a database system

Theory:
Data manipulation Language (DML):
The Data manipulation Language is used to retrieve, insert and modify database information. Lets take a brief look at the base DML commands

1. Insert 2. Update 3. Delete

Insert Into: This is used to add records into a relation. There are three types of Insert into queries which are as:-

Inserting a single word:

Syntax: INSERT Into (relation table name)
(field-1, field-2 ... field-n) VALUES
(data-1, data-2, (data-n);

2. Update - Set - where: This is used to update the content of a record in a relation

Syntax: SQL → Update relation name
SET Field-name1 = data1, field-name2 = data2 where field-name = data

Output

Shipping_id
1
2
3
4
5

Available Tables

Status	Customer
Pending	2
Pending	4
Delivered	3
Pending	5
Delivered	1

STUDENTS

ROLLNO	Name	AGE
101	Rahul	

5. Delete - From :- This is used to delete the records of a relation but it will retain the structure of that relation

a) Delete - From :- This is used to delete all the records of relation

Syntax :- SQL > Delete From relation - name;

b) Delete - From - where :- This is used to delete a selected from a relation.

4. TRUNCATE :- This command will remove the data permanently. But structure will not be removed

Syntax :- TRUNCATE TABLE < Table Name >

Task 33 :- AGGREGATE FUNCTIONS

Aim :- To study and implement aggregate function count(), sum(), AVG(), MIN(), MAX() on a sample student database

Procedure :-

1. Create a table named students.
2. Insert sample records
3. Write queries using aggregate functions
4. Observe and record the output.

Commands with explanation

1. count the total number of students

```
Select COUNT(*) AS Total_students
FROM students;
```

Explanation :-

- MAX(Marks) returns the max value in marks column
- Total_students gives a user-friendly column name.

2. Find the highest marks obtained by a student

```
Select MAX(Marks) AS Highest_Mark
From students;
```

Explanation :-

- MAX(Marks) returns the max. value in the marks column
- This tells us the scores max

Output

Total Employees

Employees with salary

54

Output

Highest Salary

90000

Output

lowest salary

65000

Output

avg salary

77500

3. Find the average marks of student

```
select AVG (marks) As Avg-mark
from students:-
```

Explanations:

AVG (marks) calculates the mean (average) of all student marks

4. Find the total marks scored by student in each department.

```
select Department, SUM (marks) As
Avg-marks From students group
By Department.
```

Explanation :-

- SUM (marks) adds up marks.
- Group By Development ensures that the total is calculated for each department separately

Result:- Thus the SQL command is executed successfully based on Student Database management System

output

Total pay -

3:10000.