

Assignment No:-3

1. Explain Alter command. Give Syntax of add and modify option.

→

The alter command is used to modify the structure of an existing table in a database. It allows you to add, modify or drop column, constraints and other table attributes.

Syntax:

Alter table table_name [add / modify]
[column_name / constraint_name];

• Add:-

Adds new column to the tab table.

Syntax:-

Alter table table_name add (column_name
data_type (size));

Ex:- • modify:-

Alter table Modify on existing column data_type, length, default value.

Syntax:-

Alter table table_name modify (column_name
data_type (size));

Ex:-

Alter table emp modify pincode (number (8));

Alter table emp add (edoj date);

2. List any four DDL commands.



- Insert
- Create
- Update
- Alter
- Delete
- Drop
- Select
- Rename
- Truncate
- Describe

3. Describe grant and revoke command.



i) Grant:-

Used to give permission to user on database.

Syntax-

grant [privilege] ON [object]
To & user | public | role [with Admin Grant option];

Ex:-

SQL> Grant Create Session to U1;

SQL> Grant Delete Select ON T1 To Anil;

ii) Revoke:-

The DCL command is used to revoke an existing privilege from a user. It is used to back permission from a user on database.

Syntax-

Revoke [privilege] ON [object] from & user | public |
Role ?

Ex:- SQL> Revoke Select ON T1 from Anil;

SQL> Revoke ALL ON T2 from mayur;

4. Describe commit and Rollback with Syntax.

→

i) commit-

A commit confirms and permanently save changes made during a transaction.

Syntax:-

commit;

Ex:-

SQL> commit;

ii) Rollback :-

A rollback reverse changes made during a transaction restarting the database to its previous state. It is work like undo.

Syntax:-

SQL> ROLLBACK;

SQL> ROLLBACK TO SP1;

5. Explain the use of truncate statement. Give example.

→

The truncate statement deletes all rows from a table without logging the individual row deletion. This prioritizes faster performance compared to delete, especially for large tables.

Syntax:-

Truncate table table_name;

Ex:-

Truncate table table_name; emp;

Write Syntax of insert command. Demonstrate with Suitable example.

Syntax:-

INSERT INTO table_name (list of columns)

VALUES (list of values);

Ex:-

insert into emp values (';om', 'SAI');

List and Explain Set operators in SQL with example.

i) union

ii) union all

iii) Intersection

iv) minus

i) union:-

The union of two or more sets contains all elements, which are present in either or both. Union works as OR. It does not allow duplication.

Ex :-

Select ename from emp1 union Select ename from emp2;

ii) union all :-

The union of two or more sets contains all elements, which are present in both, including duplicates.

Ex:-

Select ename from emp1 union all Select ename from emp2;

iii) Intersection :-

The intersection of two sets includes elements which are present in both. It displays common values from both table.

Ex:-

Select ename from emp1 intersect Select ename from emp2;

iv) minus :-

The minus of two sets includes elements from Set 1 minus elements of Set 2.

A - B :- takes values only from A set.

B - A :- takes values only from B set.

Ex :- Sets

Select ename from emp1 minus Select ename from emp2;

8. List and explain any four arithmetic operations in SQL with example.

→

Arithmetic operators:-

- i) Addition (+)
- ii) Subtraction (-)
- iii) Multiplication (*)
- iv) Divide (/)

i) Addition :-

The addition plus (+) operator is used to add two or more expressions or numbers.

Ex:-

Select 10 + 5 from dual;

ii) Subtraction :-

The subtraction minus (-) operator is used to subtract one expression or number from another expressions or number.

Ex:-

Select 10 - 5 from dual;

iii) Multiplication :-

The multiply operators (*) is used to divide one expression or number by another.

Ex:-

Select 8 * 5 from dual;

iv) Division :-

The division operator (/) is used to divide one expression or number by another.

Ex:-

Select 20/3 from dual;

9. Explain any four String functions with example.

i) lower :-

It writes the result in lowercase.

Ex:-

Select lower ('Yash') from dual;

ii) initcap :-

Returns the result in uppercase for

Starting letter.

Ex:- Select initcap ('om') from dual;

iii) ltrim :-

Cuts the string from left side.

Ex:-

Select ltrim ('Ramchandra', 'Ram') from dual;

iv) length :-

Returns the total length of the given input string.

Eg:- Select length (CustomerName) AS length of Name
from customer;

10. → Describe the date, date and time function.

Date and time function in SQL are used to manipulate and extract information from table in date and time format. Here are common date & time functions.

i) Sysdate:-

To display today's current date

ex:-

Select sysdate from dual;

ii) next_day:-

used to display the date as per given date and day.

ex:-

Select next_day ('01-Sep-07', 'Sunday') from dual;

iii) months_between:-

It is used to return the months between given dates.

ex:-

Select months_between (sysdate, '01-Sep-007') from dual dual;

iv) Add_months:-

It is used to either add or subtract specified months from given date.

E.g:-

Select add_months ('01-Sep-07', 10) from dual;

11. Explain any four aggregate functions with their concept

→ Aggregate function:- This are inbuilt functions which can be applied on column and produces results.

i) min () :-

To return minimum value of column.

Syntax :-

select min (e.sal) from dual; emp;

ii) max () :-

Returns the maximum value of column.

Syntax :- tables Column.

Syntax :-

select max (e.sal) from emp;

iii) Sum () :-

Select returns the sum/addition of column.

Eg :-

select sum (e.sal) from emp;

iv) count () :-

Returns the number of rows (records) for given column without null values.

Ex :-

select count (ename) from dual; emp;

iv) Add-months :-

It is used to either add or subtract specified months
E.g:-

so

12. What is Sequence? What various operations?

→

It is used to generate auto numbers in a sequence. One set table oriented that is sequence can be used independently for any table.

- Various operations with respect to sequence:-
- Create Sequence
- Alter Sequence
- Drop Sequence

13. What is Sequence? Create sequence for student table.

→

It is used to generate auto number in a sequence.

- create seq sequence student_start with 1 increment by 1 max value 100 no cycle;

14. Describe the following

→ i) unique indexes -

It can be applied on single column, not allows duplication.

SQL > create index idx2 on order (product_id);

ii) composite index:-

It can be applied on multiple column.

SQL > Create index idx3 ON order (supplier_name,
unit_price);

15. Explain group by , order by clause of clause of SQL with example.

i) order by clause :-

- The order by clause keyword is used to sort the result-set.

- The order by keyword sorts the records in ascending order by default.
- To sort the records in a descending order, you can use the Desc keyword.

Syntax:-

Select Column_name(s) from table_name order by column_name ASC|DESC;

Ex:-

Select # from customer order by country;

ii) Group by clause :-

The Group By Statement is used in conjunction with the aggregate functions to group the result-set by one or more columns.

Syntax:-

Select Column_name, aggregate function(Column_name)
from table_name WHERE & column_name operator value
Group By Column_name;

Select add months

S2

e.g:-

Select ename, e.sal from emp order by
Select * from ename from emp where city =
'Nashik' group by ename, order by ename;

16. Explain Having clause with example

→

The Having Clause was added to SQL because the WHERE keyword could not be used with aggregate functions.

Syntax:-

Select column_name, aggregate function
(column_name) from table_name WHERE column_name
operator value Group By column_name HAVING
agg aggregate function (column_name) operator value.

ex:-

Select count(*) from emp group by deptno
having count(deptno) > 3

17. Explain word comparison operators.

→ 07

17 IN :-

It checks if a value is present in a list of values.

e.g:-

Select * from emp where dno in (10,20,30);

ii) NOT IN :- It check is a value is not present in a list of values.

ex:-

Select dept_no from emp where NOT in ('01-Sep-07', '01-Oct-07', '01-Nov-07');

b) Between and NOT between

i) Between :- it searches record within given range.

e.g:-

Select * from emp where esal between 1000 & 5000;

ii) NOT between :- it Searches record outside given range.

e.g:-

Select * from emp where edate not between '01-Jan-10' and '31-Dec-10';

18. What are Synonyms ? How to create and drop synonym ?

→ These are nickname, alias, another name, alternate name is called as Synonyms to table or object.

Create Synonym :- Create Synonym s1 for emp;

Drop Synonym :- Drop Synonym s1;

It is used to subtract specified months from given date
months ('01-Sep-07', 10)

19. State use of '%' character in string operation.
- It displays the result based on pattern of a string or a character.
- e.g:-
- Select * from emp where ename like '%.-%';
 - Select * from emp where ename like '%.A%';
 - Select * from emp where ename like '%.P%';

20. Explain view with example. How to create view? Give its Syntax and explain advantages?
- Using view part of table can be displayed & access i.e., view only takes required fields from a table.

Create view:-

Syntax:- Create view view-name as Select column1, column2, ... from table-name where cond;

e.g:- create view V1 as select eno, ename, esal from emp where esal > 1000;

Advantages of view:-

- i) view can hide complex queries and present data in a simple format.
- ii) view can restrict access to sensitive data by only specifying columns or rows.
- iii) view can be used to create multiple queries if these common logic.

21. Explain Outer join ? Explain In in details:

→ A join displays the result as per condition from both tables.

i) left outer join - displays the matching result for last table and returns NULL for right table.

Ex:- Select ename, esal, dname from emp left join table and returns NULL for right table.

ii) right outer join - displays the matching result for right table and returns NULL for left table.

Ex:- Select ename, esal, dname, from emp right join dept on emp eno = dept no;

iii) full outer join - It combines result of dept and right join.

Ex:- Select ename, esal, dname from emp full join dept on emp dept no;

22. Define index. State its type.

→ These are designed to provide fast access path to specified column of a table.

Type :-

i) simple :- can be applied on single column allows duplication.

E.g. Create index id1 on emp (ename);

ii) unique :- can be applied on single column not allows duplication.

Syntax - Create unique index id2 on emp (enumber);

iii) complex :- Can be applied on multiple columns.

e.g.:- Create index id3 on emp (ecity, esal);

Q3. With the help of example, explain drop view command.

→ The drop view command is used to delete a view from database.

Syntax -

Drop view .view-name;

e.g.:- Create view customer as select eid,
count(*) as to Sum (total) as total;

24. Difference between View and Index.

→

View

index.

- i) Virtual table based on a query
 - ii) Data Structure that improves query performance.
 - iii) Stores only selected columns & rows present.
 - iv) Used to simplify complex queries improve data security, especially data instance. Used for frequently queried column.
- iv) Can be based on one or multiple tables or multiple columns.

Q5. Define index. State its type.

→ Indexing is a technique for improving database performance - i.e. by reducing the number of disk accesses necessary when a query is run.

- i) simple index
 - ii) unique index
 - iii) composite index.