Data Science Query

Categories of commands:

* DDL
* DML
* DCL
* TCL
* DQL

Commands:

create database datascience

\c datascience

CREATE TABLE:

datascience=# create table stud\_details(regno int,dept varchar(50),name varchar(50),gender char,age int);

OUTPUT:

CREATE TABLE

SELECT:

datascience=# select \* from stud\_details;

OUTPUT:

regno | dept | name | gender | age

-------+------+------+--------+-----

(0 rows)

ALTER TABLE(RENAME):

**alter table stud\_details rename to stdent\_details;**

**OUTPUT:**

**ALTER TABLE**

ALTER TABLE(ADD COLUMN):

**datascience=# alter table stdent\_details add column year int;**

**OUTPUT:**

**ALTER TABLE**

**SELECT:**

**datascience=# select \* from stdent\_details;**

**regno | dept | name | gender | age | year**

**-------+------+------+--------+-----+------**

**(0 rows)**

ALTER TABLE(DROP COLUMN):

**datascience=# alter table stdent\_details drop age;**

**OUTPUT:**

**ALTER TABLE**

**SELECT:**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender | year**

**-------+------+------+--------+------**

**(0 rows)**

**TRUNCATE:**

**datascience=# truncate table stdent\_details;**

**OUTPUT:**

**TRUNCATE TABLE**

**SELECT:**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender | year**

**-------+------+------+--------+------**

**(0 rows)**

**INSERT:**

**datascience=# insert into stdent\_details values(52,'AI&DS','Sastika','F',2022);**

**INSERT 0 1**

**datascience=# insert into stdent\_details values(29,'AI&DS','Kani','F',2022);**

**INSERT 0 1**

**datascience=# insert into stdent\_details values(34,'AI&DS','Mahi','F',2022);**

**INSERT 0 1**

**datascience=# insert into stdent\_details values(20,'CSE','Madhu','F',2022);**

**INSERT 0 1**

**datascience=# insert into stdent\_details values(18,'IT','Krithick','M',2024);**

**INSERT 0 1**

**datascience=# insert into stdent\_details values(23,'BME','Karan','M',2024);**

**INSERT 0 1**

**OUTPUT:**

**datascience=# select \* from stdent\_details;**

**regno | dept | name | gender | year**

**-------+-------+----------+--------+------**

**52 | AI&DS | Sastika | F | 2022**

**29 | AI&DS | Kani | F | 2022**

**34 | AI&DS | Mahi | F | 2022**

**20 | CSE | Madhu | F | 2022**

**18 | IT | Krithick | M | 2024**

**23 | BME | Karan | M | 2024**

**(6 rows)**

**UPDATE:**

**update stdent\_details set regno=35 where name='Krithick';**

**UPDATE 1**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender | year**

**-------+-------+----------+--------+------**

**52 | AI&DS | Sastika | F | 2022**

**29 | AI&DS | Kani | F | 2022**

**34 | AI&DS | Mahi | F | 2022**

**20 | CSE | Madhu | F | 2022**

**23 | BME | Karan | M | 2024**

**35 | IT | Krithick | M | 2024**

**(6 rows)**

**datascience=# update stdent\_details set year=2023 where name='Madhu';**

**UPDATE 1**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender | year**

**-------+-------+----------+--------+------**

**52 | AI&DS | Sastika | F | 2022**

**29 | AI&DS | Kani | F | 2022**

**34 | AI&DS | Mahi | F | 2022**

**23 | BME | Karan | M | 2024**

**35 | IT | Krithick | M | 2024**

**20 | CSE | Madhu | F | 2023**

**(6 rows)**

**DELETE:**

**datascience=# delete from stdent\_details where regno=20;**

**DELETE 1**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender | year**

**-------+-------+----------+--------+------**

**52 | AI&DS | Sastika | F | 2022**

**29 | AI&DS | Kani | F | 2022**

**34 | AI&DS | Mahi | F | 2022**

**23 | BME | Karan | M | 2024**

**35 | IT | Krithick | M | 2024**

**(5 rows)**

**ALTER TABLE(DROP):**

**datascience=# alter table stdent\_details drop year;**

**ALTER TABLE**

**datascience=# select \* from stdent\_details;**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+----------+--------**

**52 | AI&DS | Sastika | F**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**23 | BME | Karan | M**

**35 | IT | Krithick | M**

**(5 rows)**

**ORDER BY:**

**datascience=# select \* from stdent\_details order by regno desc;**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+----------+--------**

**52 | AI&DS | Sastika | F**

**35 | IT | Krithick | M**

**34 | AI&DS | Mahi | F**

**29 | AI&DS | Kani | F**

**23 | BME | Karan | M**

**(5 rows)**

**datascience=# select \* from stdent\_details order by regno;**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+----------+--------**

**23 | BME | Karan | M**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**35 | IT | Krithick | M**

**52 | AI&DS | Sastika | F**

**(5 rows)**

**LIMIT:**

**datascience=# select \* from stdent\_details limit 3;**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+---------+--------**

**52 | AI&DS | Sastika | F**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**(3 rows)**

**NULL:**

**datascience=# insert into stdent\_details values(NULL,'BME','Sharik','M');**

**INSERT 0 1**

**datascience=# select \* from stdent\_details where regno isnull;**

**OUTPUT:**

**regno | dept | name | gender**

**-------+------+--------+--------**

**| BME | Sharik | M**

**(1 row)**

**LIKE %(starting):**

**datascience=# select \* from stdent\_details where name like 'M%';**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+------+--------**

**34 | AI&DS | Mahi | F**

**(1 row)**

**LIKE %(ending):**

**datascience=# select \* from stdent\_details where name like '%i';**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+------+--------**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**(2 rows)**

**LIKE %(INBETWEEN):**

**datascience=# select \* from stdent\_details where name like '%r%';**

**OUTPUT:**

**regno | dept | name | gender**

**-------+------+----------+--------**

**23 | BME | Karan | M**

**35 | IT | Krithick | M**

**0 | BME | Sharik | M**

**| BME | Sharik | M**

**(4 rows)**

**datascience=# select \* from stdent\_details where name like '%c%';**

**regno | dept | name | gender**

**-------+------+----------+--------**

**35 | IT | Krithick | M**

**(1 row)**

**JOINS:**

**INNER JOIN:**

**datascience=# select \* from stdent\_details s inner join marks m on s.regno=m.regno;**

**OUTPUT:**

**regno | dept | name | gender | markid | regno | subject | marks**

**-------+-------+----------+--------+--------+-------+---------+-------**

**52 | AI&DS | Sastika | F | 21 | 52 | dl | 98**

**29 | AI&DS | Kani | F | 22 | 29 | ml | 97**

**34 | AI&DS | Mahi | F | 23 | 34 | da | 90**

**23 | BME | Karan | M | 24 | 23 | ds | 89**

**35 | IT | Krithick | M | 25 | 35 | ba | 78**

**0 | BME | Sharik | M | 26 | 0 | excel | 67**

**(6 rows)**

**IN COMMAND:**

**datascience=# SELECT \* FROM stdent\_details WHERE dept IN ('AI&DS');**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+---------+--------**

**52 | AI&DS | Sastika | F**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**(3 rows)**

**BETWEEN:**

**datascience=# SELECT \* FROM marks WHERE marks BETWEEN 67 AND 90;**

**OUTPUT:**

**markid | regno | subject | marks**

**--------+-------+---------+-------**

**23 | 34 | da | 90**

**24 | 23 | ds | 89**

**25 | 35 | ba | 78**

**26 | 0 | excel | 67**

**27 | | q-l | 89**

**(5 rows)**

**GROUP BY:**

**datascience=# SELECT dept, COUNT(\*) AS student\_count FROM stdent\_details GROUP BY dept;**

**OUTPUT:**

**dept | student\_count**

**-------+---------------**

**BME | 3**

**AI&DS | 3**

**(2 rows)**

**datascience=# SELECT dept, count(\*) AS student\_count from stdent\_details GROUP BY dept HAVING count(\*) > 1;**

**dept | student\_count**

**-------+---------------**

**BME | 3**

**AI&DS | 3**

**(2 rows)**

**WHERE:**

**datascience=# SELECT \* FROM stdent\_details WHERE dept = 'AI&DS';**

**OUTPUT:**

**regno | dept | name | gender**

**-------+-------+---------+--------**

**52 | AI&DS | Sastika | F**

**29 | AI&DS | Kani | F**

**34 | AI&DS | Mahi | F**

**(3 rows)**

**RANK():**

**datascience=# select name,regno ,RANK() OVER (ORDER BY regno DESC) AS rank FROM stdent\_details;**

**OUTPUT:**

**name | regno | rank**

**---------+-------+------**

**Sharik | | 1**

**Sastika | 52 | 2**

**Mahi | 34 | 3**

**Kani | 29 | 4**

**Karan | 23 | 5**

**Sharik | 0 | 6**

**(6 rows)**

**DENSE\_RANK():**

**datascience=# select name,regno ,DENSE\_RANK() OVER (ORDER BY regno DESC) AS rank FROM stdent\_details;**

**name | regno | rank**

**---------+-------+------**

**Sharik | | 1**

**Sastika | 52 | 2**

**Mahi | 34 | 3**

**Kani | 29 | 4**

**Karan | 23 | 5**

**Sharik | 0 | 6**

**UNIQUE RANKS():**

**datascience=# SELECT name, regno, ROW\_NUMBER() OVER (ORDER BY regno DESC) AS row\_num from stdent\_details;**

**name | regno | row\_num**

**---------+-------+---------**

**Sharik | | 1**

**Sastika | 52 | 2**

**Mahi | 34 | 3**

**Kani | 29 | 4**

**Karan | 23 | 5**

**Sharik | 0 | 6**

**(6 rows)**

**PARTITION BY:**

**datascience=# SELECT name, dept, regno,RANK() OVER (PARTITION BY dept ORDER BY regno DESC) AS rank FROM stdent\_details;**

**name | dept | regno | rank**

**---------+-------+-------+------**

**Sastika | AI&DS | 52 | 1**

**Mahi | AI&DS | 34 | 2**

**Kani | AI&DS | 29 | 3**

**Sharik | BME | | 1**

**Karan | BME | 23 | 2**

**Sharik | BME | 0 | 3**

**(6 rows)**