

Assignment-4

1. Download dataset from
<https://www.kaggle.com/datasets/krishujeniya/salary-prediction-of-data-professions?resource=download>
2. Ingest the dataset from your local machine storage into postgresQL database
Hint: use **copy command** in sql editor which will copy your csv file to postgres DB
For ingesting csv you might also need to create table according to the column structure of your CSV file ahead of executing copy command
3. Once the table is populated please complete following queries:

```
create table Profession (  
id serial primary key,  
firstName varchar(50),  
lastName varchar(50),  
sex varchar(50),  
doj date,  
currentDate date,  
designation varchar(50),  
age int,  
salary int,  
unit varchar(50),  
leavesUsed int,  
leavesRemaining int,  
ratings int,  
pastExp int  
);
```

```
copy Profession(firstName,lastName,sex,doj,currentDate,designation,age,salary,unit,leavesUsed,leavesRemaining,ratings,pastExp)  
from 'D:\Web\Leapfrog\Fellowship\Database\Assignment-4\Salary Prediction of Data Professions.csv' DELIMITER ',' CSV header;  
select * from Profession ;
```

	id	firstName	lastName	sex	doj	currentDate	designation	age	salary	unit	leavesUsed	leavesRemaining
1	1	TOMASA	ARMEN	F	2014-05-18	2016-01-07	Analyst	21	44,570	Finance		24
2	2	ANNIE	[NULL]	F	[NULL]	2016-01-07	Associate	[NULL]	89,207	Web	[NULL]	
3	4	CHERRY	AQUILAR	F	2013-04-03	2016-01-07	Analyst	22	45,550	IT		22
4	5	LEON	ABOULAHOU	M	2014-11-20	2016-01-07	Analyst	[NULL]	43,161	Operations		27
5	6	VICTORIA	[NULL]	F	2013-02-19	2016-01-07	Analyst	22	48,736	Marketing		20
6	7	ELLIOT	AGULAR	M	2013-09-02	2016-01-07	Analyst	22	40,339	Marketing		19
7	8	JACQUES	AKMAL	M	2013-12-05	2016-01-07	Analyst	[NULL]	40,058	Marketing		29
8	9	KATHY	ALSOP	F	2014-06-29	2016-01-07	Senior Analyst	28	63,478	Operations		20
9	10	LILIAN	APELA	F	2014-11-11	2016-01-07	Analyst	22	43,110	Finance		15
10	11	BELLE	ARDS	F	2014-03-10	2016-01-07	Analyst	24	41,590	Marketing		22
11	12	VIRGIL	ACKIES	M	2010-02-01	2016-01-07	Senior Manager	36	160,613	Finance	[NULL]	
12	13	WELDON	AIVAO	M	2013-08-01	2016-01-07	Analyst	24	44,828	Finance		15
13	14	BOYD	AFTON	M	2013-03-22	2016-01-07	Analyst	21	45,830	Web		23
14	15	BART	AGUILLERA	M	2013-07-27	2016-01-07	Analyst	24	43,457	Management		30

Common Table Expressions (CTEs):

Question 1: Calculate the average salary by department for all Analysts.

```
with
avg_sal as (
select p.designation, avg(p.salary) from Profession p
group by p.designation having p.designation='Analyst'
)
select * from avg_sal;
```

	abc designation	123 avg
1	Analyst	45,025.2426885582

Question 2: List all employees who have used more than 10 leaves.

```
with
Leaves as(
select firstname, leavesUsed from profession where leavesUsed >10
)
select * from Leaves;
```

	abc firstname	123 leavesused
1	TOMASA	24
2	CHERRY	22
3	LEON	27
4	VICTORIA	20
5	ELLIOT	19
6	JACQUES	29
7	KATHY	20
8	LILIAN	15

Views:

Question 3: Create a view to show the details of all Senior Analysts.

```
create view seniorAnalyst as
select * from profession where profession.designation='Senior Analyst';
select * from seniorAnalyst
```

	abc id	abc firstname	abc lastname	abc sex	abc doj	currentdate	abc designation	123 age	123 salary	abc unit	123 leavesused
1	9	KATHY	ALSOP	F	2014-06-29	2016-01-07	Senior Analyst	28	63,478	Operations	20
2	29	SEYMOUR	ALBEN	M	2014-12-21	2016-01-07	Senior Analyst	25	57,488	Operations	25
3	33	FOSTER	ALDERMAN	M	2014-05-22	2016-01-07	Senior Analyst	26	68,295	Operations	28
4	54	CARI	ARENALES	F	2014-04-10	2016-01-07	Senior Analyst	28	66,338	Web	24
5	58	PAULINE	ALTSHULER	F	2014-12-13	2016-01-07	Senior Analyst	28	61,647	Finance	28
6	69	RILEY	AIKINS	M	2013-06-16	2016-01-07	Senior Analyst	25	60,712	Finance	26
7	73	MARYJANE	ARES	F	2012-08-24	2016-01-07	Senior Analyst	25	65,212	Management	29
8	76	MARY	ALMESTICA	F	2013-10-12	2016-01-07	Senior Analyst	27	53,339	Finance	26
9	83	WILMER	AKIONA	M	2014-05-30	2016-01-07	Senior Analyst	25	50,739	IT	25

Materialized Views:

Question 4: Create a materialized view to store the count of employees by department.

```
create materialized view countEmployees as
select unit,count(unit) from profession group by unit;
select * from countEmployees;
```

	ABC unit	123 count
1	Operations	438
2	Finance	446
3	Web	431
4	Management	425
5	IT	461
6	Marketing	438

Procedures (Stored Procedures):

Question 6: Create a procedure to update an employee's salary by their first name and last name

```
select firstname,lastname,salary from profession order by id
```

1	TOMASA	ARMEN	44,570
2	ANNIE	[NULL]	89,207
3	OLIVE	ANCY	50,955

```
create or replace procedure updateSalary(
    first varchar(50),
    last varchar(50),
    amount int
)
language plpgsql
as $$
begin
    update profession
    set salary=salary+amount where firstname=first and lastname=last ;
commit;
end;
$$;
call updateSalary('OLIVE','ANCY',10000);
```

	ABC firstname	ABC lastname	123 salary
1	TOMASA	ARMEN	44,570
2	ANNIE	[NULL]	89,207
3	OLIVE	ANCY	60,955

Question 7: Create a procedure to calculate the total number of leaves used across all departments.

```
create or replace procedure calcLeavesUsed()
language plpgsql
as $$
DECLARE
    total_leaves INTEGER;
begin
    create temporary table leavesTable as
    (select SUM(leavesused) from profession
    );
    end;$$;

call calcLeavesUsed();
select * from leavesTable;
```

	123 sum
1	59,314