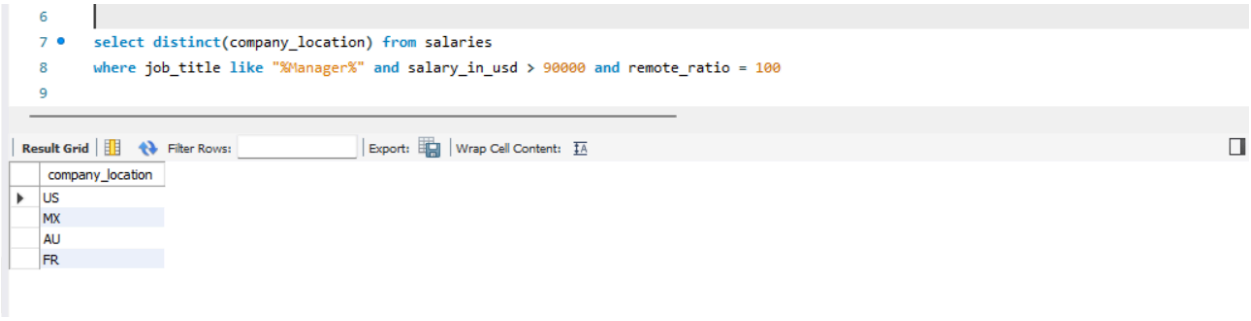
1. You're a Compensation analyst employed by a multinational corporation. Your Assignment is to Pinpoint Countries who give work fully remotely, for the title 'managers' Paying salaries Exceeding $90,000 USD

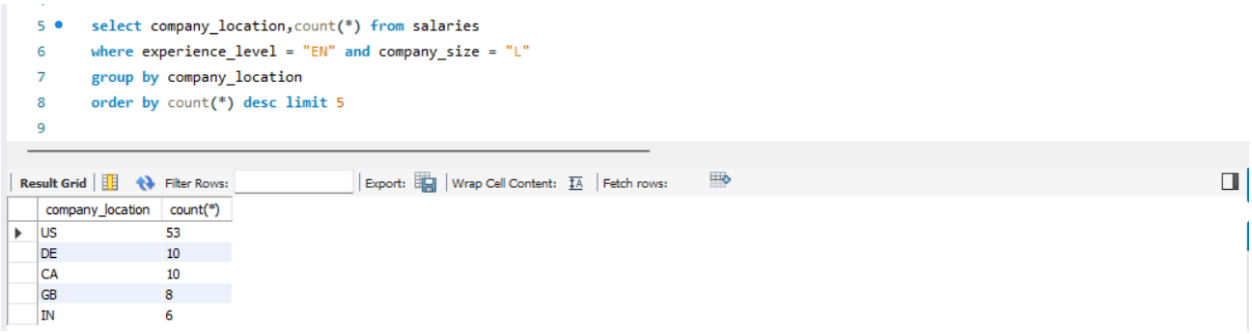
```
use case_study;
select distinct(company_location) from salaries
where job_title like "%Manager%" and salary_in_usd > 90000 and remote_ratio = 100
```



company_location
US
MX
AU
FR

2. AS a remote work advocate Working for a progressive HR tech startup who place their freshers' clients IN large tech firms. you're tasked WITH Identifying top 5 Countries having the greatest count of large (company size) number of companies

```
select company_location,count(*) from salaries
where experience_level = "EN" and company_size = "L"
group by company_location
order by count(*) desc limit 5
```



company_location	count(*)
US	53
DE	10
CA	10
GB	8
IN	6

3. Picture yourself AS a data scientist Working for a workforce management platform. Your objective is to calculate the percentage of employees. Who enjoy fully remote roles WITH salaries Exceeding $100,000 USD, Shedding light ON the attractiveness of high-paying remote positions IN today's job market.

```
set @total = (select count(*) from salaries where salary_in_usd > 100000);
set @count = (select count(*) from salaries where salary_in_usd > 100000 and remote_ratio = 100);
set @percentage = round((select @count) / (select @total) *100,2);
```

select @percentage

```
set @total = (select count(*) from salaries where salary_in_usd > 100000);
set @count = (select count(*) from salaries where salary_in_usd > 100000 and remote_ratio = 100);
set @percentage = round((select @count) / (select @total) *100,2);
select @percentage
```

@percentage
32.24

4. Imagine you're a data analyst Working for a global recruitment agency. Your Task is to identify the Locations where entry-level average salaries exceed the average salary for that job title IN market for entry level, helping your agency guide candidates towards lucrative opportunities.

select t1.job_title, average, company_location, ave_per_location from
(select job_title, avg(salary_in_usd) as 'average' from salaries group by job_title) t1
inner join
(select company_location,job_title, avg(salary_in_usd) as 'ave_per_location' from salaries group by company_location,job_title) t2
on t1.job_title = t2.job_title
where ave_per_location > average

```
select t1.job_title, average, company_location, ave_per_location from
(select job_title, avg(salary_in_usd) as 'average' from salaries group by job_title) t1
inner join
(select company_location,job_title, avg(salary_in_usd) as 'ave_per_location' from salaries group by company_location,job_title) t2
on t1.job_title = t2.job_title
where ave_per_location > average
```

job_title	average	company_location	ave_per_location
Machine Learning Engineer	187211.5491	US	194339.8570
Machine Learning Engineer	187211.5491	AU	195483.0000
Business Intelligence Developer	100395.9592	US	106506.8500
Data Scientist	153996.3963	US	162605.5684
Data Engineer	147050.0278	US	153737.3030
Research Engineer	190401.0038	US	201340.8155
Data Analyst	108553.7662	US	112567.7444
Machine Learning Scientist	189348.1842	US	195506.3191
Applied Scientist	190580.0027	US	191002.3525
Data Science Manager	192173.8981	US	200380.6869

5. You've been hired by a big HR Consultancy to look at how much people get paid IN different Countries. Your job is to Find out for each job title which. Country pays the maximum average salary. This helps you to place your candidates IN those countries.

select * from
(select *, dense_rank() over(partition by job_title order by avg_salary desc) as 'position'
from (select company_location, job_title, avg(salary_in_usd) as 'avg_salary'
from salaries group by company_location, job_title) t1) t2

where position = 1

```
select * from
(select *, dense_rank() over(partition by job_title order by avg_salary desc) as 'position'
from (select company_location, job_title, avg(salary_in_usd) as 'avg_salary'
from salaries group by company_location, job_title) t1 ) t2
where position = 1
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

company_location	job_title	avg_salary	position
IN	Admin & Data Analyst	60000.0000	1
CA	AI Architect	800000.0000	1
CA	AI Developer	275000.0000	1
QA	AI Engineer	300000.0000	1
US	AI Product Manager	152650.0000	1
FR	AI Programmer	120000.0000	1
US	AI Research Engineer	175000.0000	1
DE	AI Research Scientist	88888.0000	1
IL	AI Scientist	417937.0000	1
EG	AI Software Engineer	174100.0000	1

6. AS a data-driven Business consultant, you've been hired by a multinational corporation to analyze salary trends across different company Locations. Your goal is to Pinpoint Locations WHERE the average salary Has consistently Increased over the Past few years (Countries WHERE data is available for 3 years Only(present year and past two years) providing Insights into Locations experiencing Sustained salary growth.

```
with cte as (
        select * from salaries where company_location in
        (select company_location from
        (select company_location, avg(salary_in_usd) as "avg_salary", count(distinct work_year) as 'cnt'
        from salaries where work_year >= year(current_date()) - 2
        group by company_location having cnt = 3) t1)
)
select company_location,
max(case when work_year = 2022 then average end) as 'avg_salary_2022',
max(case when work_year = 2023 then average end) as 'avg_salary_2023',
max(case when work_year = 2024 then average end) as 'avg_salary_2024'
from
(select company_location,work_year, avg(salary_in_usd) as 'average' from cte group by company_location,work_year) t3
group by company_location
having avg_salary_2024 > avg_salary_2023 and avg_salary_2023 > avg_salary_2022
```

```
13  )
14  select company_location,
15  max(case when work_year = 2022 then average end) as 'avg_salary_2022',
16  max(case when work_year = 2023 then average end) as 'avg_salary_2023',
17  max(case when work_year = 2024 then average end) as 'avg_salary_2024'
18  from
19  (select company_location,work_year, avg(salary_in_usd) as 'average' from cte group by company_location,work_year) t3
20  group by company_location
21  having avg_salary_2024 > avg_salary_2023 and avg_salary_2023 > avg_salary_2022
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

company_location	avg_salary_2022	avg_salary_2023	avg_salary_2024
CA	126009.5526	150724.1414	153611.8077
ES	47997.3415	60327.9857	72184.6667
FI	63040.0000	71259.0000	77777.0000
FR	72684.4667	100411.1905	101370.1667
PT	48921.3750	51521.0000	53054.7500
AR	50000.0000	65000.0000	88500.0000
IN	37328.3333	47777.5217	71538.3333
HU	17684.0000	43000.0000	63333.0000

7. Picture yourself AS a workforce strategist employed by a global HR tech startup. Your Mission is to Determine the percentage of fully remote work for each experience level IN 2021 and compare it WITH the corresponding figures for 2024, Highlighting any significant Increases or decreases IN remote work Adoption over the years.

```
select * from
(
        select *, ((cnt)/(total)) * 100 as 'remote_2021' from
                (select t1.experience_level,total,cnt from
                (select experience_level, count(*) as total from salaries where work_year = 2021
                group by experience_level) t1
                inner join
                (select experience_level, count(*) as cnt from salaries where work_year = 2021 and remote_ratio = 100
                group by experience_level) t2
                on t1.experience_level = t2.experience_level) t
) x inner join
(
        select *, ((cnt)/(total)) * 100 as 'remote_2024' from
                (select t1.experience_level,total,cnt from
                (select experience_level, count(*) as total from salaries where work_year = 2024
                group by experience_level) t1
                inner join
                (select experience_level, count(*) as cnt from salaries where work_year = 2024 and remote_ratio = 100
                group by experience_level) t2
```

on t1.experience_level = t2.experience_level) t
) y on x.experience_level = y.experience_level

```
select * from
(
    select *, ((cnt)/(total)) * 100 as 'remote_2021' from
        (select t1.experience_level,total,cnt from
        (select experience_level, count(*) as total from salaries where work_year = 2021
        group by experience_level) t1
        inner join
        (select experience_level, count(*) as cnt from salaries where work_year = 2021 and remote_ratio = 100
        group by experience_level) t2
        on t1.experience_level = t2.experience_level) t
) x inner join
(
    select *, ((cnt)/(total)) * 100 as 'remote_2024' from
        (select t1.experience_level,total,cnt from
        (select experience_level, count(*) as total from salaries where work_year = 2024
        group by experience_level) t1
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

experience_level	total	cnt	remote_2021	experience_level	total	cnt	remote_2024
SE	75	44	58.6667	SE	1920	483	25.1563
MI	87	45	51.7241	MI	1102	227	20.5989
EN	46	22	47.8261	EN	381	87	22.8346
EX	10	5	50.0000	EX	106	35	33.0189

8. AS a Compensation specialist at a Fortune 500 company, you're tasked WITH analyzing salary trends over time. Your objective is to calculate the average salary increase percentage for each experience level and job title between the years 2023 and 2024, helping the company stay competitive IN the talent market.

WITH t AS
(
SELECT experience_level, job_title ,work_year, round(AVG(salary_in_usd),2) AS 'average' FROM salaries WHERE work_year IN (2023,2024) GROUP BY experience_level, job_title, work_year
) -- step 1

SELECT *,round((((AVG_salary_2024-AVG_salary_2023)/AVG_salary_2023)*100),2) AS changes
FROM
(
SELECT
experience_level, job_title,
MAX(CASE WHEN work_year = 2023 THEN average END) AS AVG_salary_2023,
MAX(CASE WHEN work_year = 2024 THEN average END) AS AVG_salary_2024
FROM t GROUP BY experience_level , job_title -- step 2

)a WHERE (((AVG_salary_2024-AVG_salary_2023)/AVG_salary_2023)*100) IS NOT NULL -- STEP 3

```
WITH t AS
(
SELECT experience_level, job_title ,work_year, round(AVG(salary_in_usd),2) AS 'average'  FROM salaries WHERE work_year IN (2023,2024) GR
)  -- step 1



SELECT *,round((((AVG_salary_2024-AVG_salary_2023)/AVG_salary_2023)*100),2)  AS changes
FROM
(
    SELECT
        experience_level, job_title,
        MAX(CASE WHEN work_year = 2023 THEN average END) AS AVG_salary_2023,
        MAX(CASE WHEN work_year = 2024 THEN average END) AS AVG_salary_2024
    FROM  t GROUP BY experience_level , job_title -- step 2
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

experience_level	job_title	AVG_salary_2023	AVG_salary_2024	changes
SE	AI Engineer	172245.94	180068.57	4.54
SE	Machine Learning Engineer	196167.59	206863.44	5.45
MI	Business Intelligence Developer	84032.00	83385.63	-0.77
SE	Data Engineer	158309.32	161949.40	2.30
SE	Data Scientist	173480.98	160234.25	-7.64