SQL Project Data Professionals Salary Analysis

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OBJECTIVE

The Objective of this analysis is to help to understand the current situation in the data professionals and help to take better decision for the new professionals in the field.

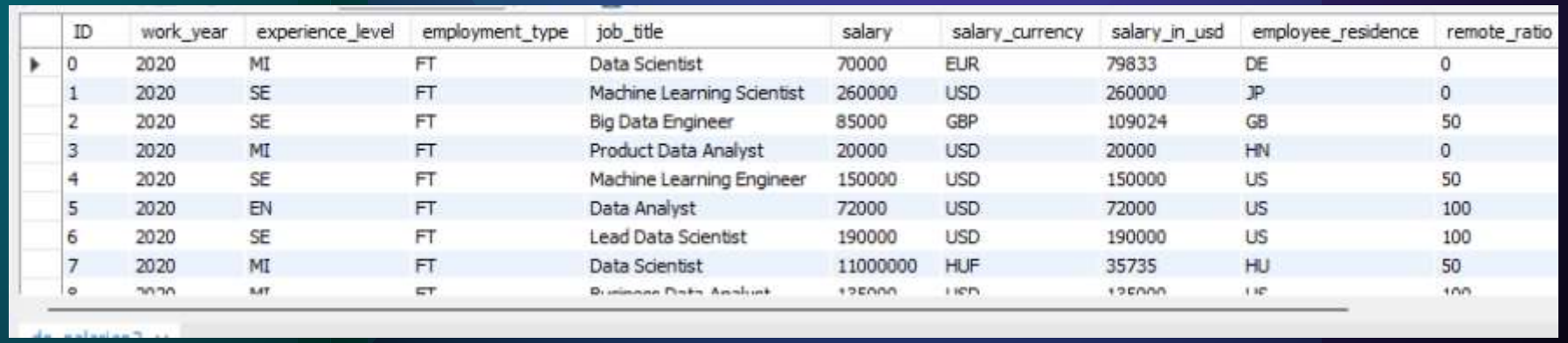
SQL will be used for the analysis.

LEVEL OF QUERIES

Easy	Medium	Advance
Select Group by Order by	Join Window Function	CTE

Retrieve All Records

```
-- Retrieve all records

select * from data_science.ds_salaries;
```



ID	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio
0	2020	MI	FT	Data Scientist	70000	EUR	79833	DE	0
1	2020	SE	FT	Machine Learning Scientist	260000	USD	260000	JP	0
2	2020	SE	FT	Big Data Engineer	85000	GBP	109024	GB	50
3	2020	MI	FT	Product Data Analyst	20000	USD	20000	HN	0
4	2020	SE	FT	Machine Learning Engineer	150000	USD	150000	US	50
5	2020	EN	FT	Data Analyst	72000	USD	72000	US	100
6	2020	SE	FT	Lead Data Scientist	190000	USD	190000	US	100
7	2020	MI	FT	Data Scientist	11000000	HUF	35735	HU	50

Retrieve Column such as Job_title, Salary, company_size.

```
-- Retrieve specific column such as job_title, salary, company_size.


select job_title, salary, company_size
from  data_science.ds_salaries;
```

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

job_title	salary	company_size
Data Scientist	70000	L
Machine Learning Scientist	260000	S
Big Data Engineer	85000	M
Product Data Analyst	20000	S
Machine Learning Engineer	150000	L
Data Analyst	72000	L
Lead Data Scientist	190000	S
Data Scientist	11000000	L
Business Data Analyst	135000	L
Lead Data Engineer	125000	S

ds_salaries3

Salary Greater than 100,000 by Job_title.

```
-- Find all job title with a salary greater than 100000;

select * from data_science.ds_salaries
where salary > 100000;
```

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

ID	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_rati
1	2020	SE	FT	Machine Learning Scientist	260000	USD	260000	JP	0
4	2020	SE	FT	Machine Learning Engineer	150000	USD	150000	US	50
6	2020	SE	FT	Lead Data Scientist	190000	USD	190000	US	100
7	2020	MI	FT	Data Scientist	11000000	HUF	35735	HU	50
8	2020	MI	FT	Business Data Analyst	135000	USD	135000	US	100
9	2020	SE	FT	Lead Data Engineer	125000	USD	125000	NZ	50
11	2020	MI	FT	Data Scientist	3000000	INR	40481	IN	0
16	2020	EN	FT	Data Engineer	4450000	JPY	41689	JP	100

Employee list of Data Scientist by Job Title.

```sql
-- List employees with a specific job title such as 'data scientist';

select * from
data_science.ds_salaries
where job_title = 'data scientist';
```

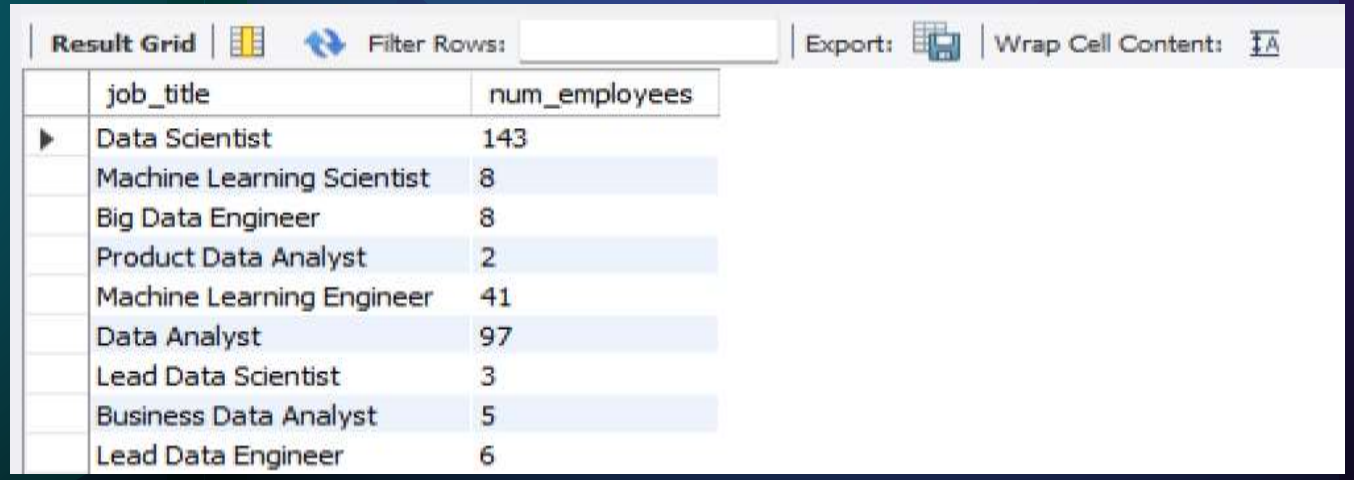
ID	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio
0	2020	MI	FT	Data Scientist	70000	EUR	79833	DE	0
7	2020	MI	FT	Data Scientist	11000000	HUF	35735	HU	50
10	2020	EN	FT	Data Scientist	45000	EUR	51321	FR	0
11	2020	MI	FT	Data Scientist	3000000	INR	40481	IN	0
12	2020	EN	FT	Data Scientist	35000	EUR	39916	FR	0
32	2020	SE	FT	Data Scientist	60000	EUR	68428	GR	100
40	2020	MI	FT	Data Scientist	45760	USD	45760	PH	100
46	2020	MI	FT	Data Scientist	60000	GBP	76958	GB	100

Avg Salary of Data Professionals

```sql
-- calculate the avarage salary

select avg(salary)
as avarage_salary
from  data_science.ds_salaries;

# count the number of employees in each
```

Number of Employees in Each Job Title.

```sql
-- count the number of employees in each job title;

select job_title, count(*)
as num_employees
from  data_science.ds_salaries
group by job_title;
```



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

job_title	num_employees
Data Scientist	143
Machine Learning Scientist	8
Big Data Engineer	8
Product Data Analyst	2
Machine Learning Engineer	41
Data Analyst	97
Lead Data Scientist	3
Business Data Analyst	5
Lead Data Engineer	6

Avg Salaries by Job Title

```sql
-- find the avarage salary by job titl

select job_title,
avg(salary) as avarage_salary
from  data_science.ds_salaries
group by job_title;
```

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

job_title	avarage_salary
Data Scientist	508347.2028
Machine Learning Scientist	158412.5000
Big Data Engineer	455000.0000
Product Data Analyst	235000.0000
Machine Learning Engineer	272717.8780
Data Analyst	96604.9588
Lead Data Scientist	1101666.6667
Business Data Analyst	355000.0000
Lead Data Engineer	140333.3333
Lead Data Analyst	560000.0000

Result 8

Number of Employees by Company Size.

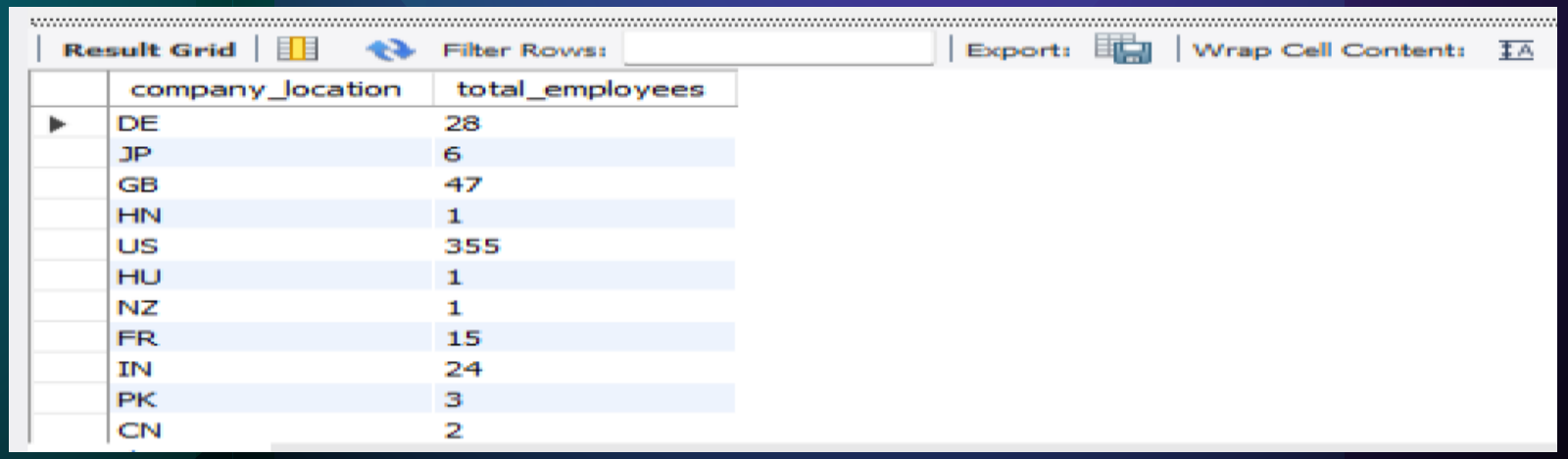
```sql
-- calculate the total number of employee by company size and locati

select company_size, count(*)
as total_employees
from  data_science.ds_salaries
group by company_size;
```

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

company_size	total_employees
L	198
S	83
M	326

Employees by Location

```sql
-- calculate the total number of employee by location;

select company_location, count(*)
as total_employees
from  data_science.ds_salaries
group by company_location;
```



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

company_location	total_employees
DE	28
JP	6
GB	47
HN	1
US	355
HU	1
NZ	1
FR	15
IN	24
PK	3
CN	2

Top 5 Highest Salary.

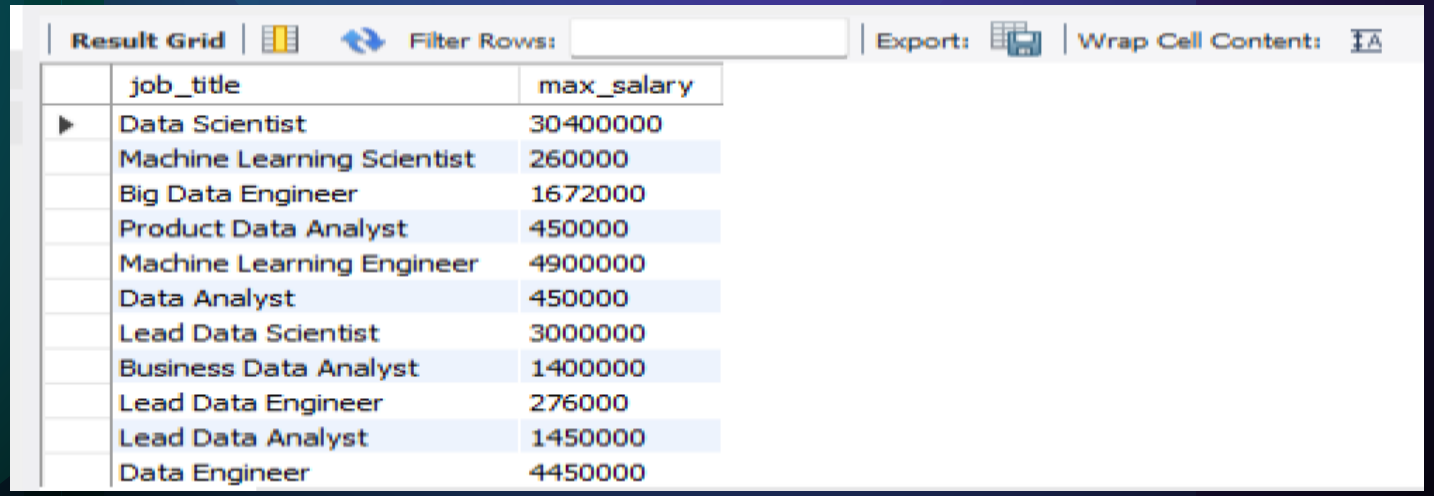
```
-- find the top 5 highest salary;

select * from data_science.ds_salaries
order by salary
desc limit 5;
```

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

ID	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio
177	2021	MI	FT	Data Scientist	30400000	CLP	40038	CL	100
7	2020	MI	FT	Data Scientist	11000000	HUF	35735	HU	50
102	2021	MI	FT	BI Data Analyst	11000000	HUF	36259	HU	50
137	2021	MI	FT	ML Engineer	8500000	JPY	77364	JP	50
136	2021	MI	FT	ML Engineer	7000000	JPY	63711	JP	50

Maxmium Salary by Job Title

```sql
-- Retrieve the employees who have the maximum salary in each job title;

select job_title, max(salary)
as max_salary
from  data_science.ds_salaries
group by job_title;
```



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

job_title	max_salary
Data Scientist	30400000
Machine Learning Scientist	260000
Big Data Engineer	1672000
Product Data Analyst	450000
Machine Learning Engineer	4900000
Data Analyst	450000
Lead Data Scientist	3000000
Business Data Analyst	1400000
Lead Data Engineer	276000
Lead Data Analyst	1450000
Data Engineer	4450000

Employees Salaries Above the Avg. Salary

```
-- List all employees whose salary is above the avarage salary;


select * from  data_science.ds_salaries
where salary > (select avg (salary)
from data_science.ds_salaries);
```

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

ID	work_year	experience_level	employment_type	job_title	salary	salary_currency	salary_in_usd
7	2020	MI	FT	Data Scientist	11000000	HUF	35735
11	2020	MI	FT	Data Scientist	3000000	INR	40481
16	2020	EN	FT	Data Engineer	4450000	JPY	41689
18	2020	EN	FT	Data Science Consultant	423000	INR	5707
21	2020	MI	FT	Product Data Analyst	450000	INR	6072
25	2020	EX	FT	Director of Data Science	325000	USD	325000
27	2020	SE	FT	Data Engineer	720000	MXN	33511
33	2020	MI	FT	Research Scientist	450000	USD	450000
50	2020	EN	FT	Data Analyst	450000	INR	6072
63	2020	SE	FT	Data Scientist	412000	USD	412000

Employee's Cumulative Salaries

```sql
-- calculate the cumulative salary for employees;

select *, sum(salary) over (order by work_year)
as cumulative_salary
from  data_science.ds_salaries;
```

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

ype	job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio	company_location	company_size	cumulative_salary
	Data Scientist	70000	EUR	79833	DE	0	DE	L	27531809
	Machine Learning Scientist	260000	USD	260000	JP	0	JP	S	27531809
	Big Data Engineer	85000	GBP	109024	GB	50	GB	M	27531809
	Product Data Analyst	20000	USD	20000	HN	0	HN	S	27531809
	Machine Learning Engineer	150000	USD	150000	US	50	US	L	27531809
	Data Analyst	72000	USD	72000	US	100	US	L	27531809
	Lead Data Scientist	190000	USD	190000	US	100	US	S	27531809
	Data Scientist	11000000	HUF	35735	HU	50	HU	L	27531809
	Business Data Analyst	135000	USD	135000	US	100	US	L	27531809
	Lead Data Engineer	125000	USD	125000	NZ	50	NZ	S	27531809

Employee's Rank by Job Title.

```sql
-- Rank employees by salary within each job title;

select *,
rank() over (partition by job_title order by salary desc)
as salary_rank
from  data_science.ds_salaries;
```

job_title	salary	salary_currency	salary_in_usd	employee_residence	remote_ratio	company_location	company_size	salary_rank
3D Computer Vision Researcher	400000	INR	5409	IN	50	IN	M	1
AI Scientist	1335000	INR	18053	IN	100	AS	S	1
AI Scientist	300000	DKK	45896	DK	50	DK	S	2
AI Scientist	200000	USD	200000	IN	100	US	L	3
AI Scientist	120000	USD	120000	US	0	US	M	4
AI Scientist	55000	USD	55000	ES	100	ES	L	5
AI Scientist	12000	USD	12000	BR	100	US	S	6
AI Scientist	12000	USD	12000	PK	100	US	M	6
Analytics Engineer	205300	USD	205300	US	0	US	M	1
Analytics Engineer	184700	USD	184700	US	0	US	M	2

Insights

Average salary for the data professionals is 324000

USA has the total number of employees with 355.

Medium size company has the highest number of employees with 326.

3D computer vision researcher rank the top.


thank
you