Sf Salary Case Study Sql Project

For Presentation All-Purpose

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Overview

Slide 2: Project Overview

- Brief introduction to the project
- Data source used (e.g., Glassdoor, Indeed, Bureau of Labor Statistics)
- Scope of the analysis (e.g., tech industry, specific job roles)

Slide 3: Data Exploration

- Overview of the dataset (number of records, columns, data types)
- Data cleaning and preprocessing steps (if any)
- Initial exploratory data analysis (EDA) findings (e.g., missing values, outliers)

Slide 4: SQL Queries

- Showcase key SQL queries used for data extraction and manipulation
- Explain the logic behind the queries
- Visual representations of query results (if applicable)

Slide 5: Salary Trends

- Visualize salary trends over time (e.g., average salary, median salary)
- Analyze salary variations by industry, company size, or job role

Slide 6: Salary by Job Role

- Compare salaries across different job roles (e.g., data scientist, data analyst, software engineer)
- Identify highest-paying job roles

Slide 7: Salary by Experience Level

- Analyze salary differences based on experience levels (e.g., entry-level, mid-level, senior)
- Identify salary ranges for different experience levels

Slide 8: Salary by Company Size

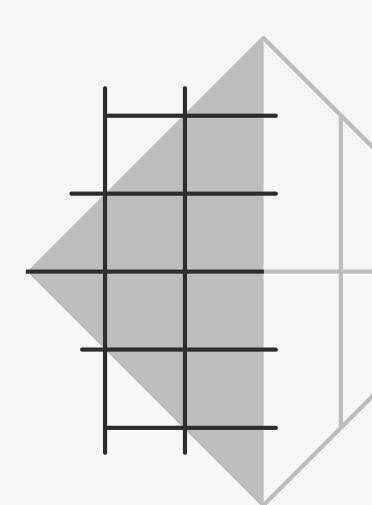
- Compare salaries across companies of different sizes (e.g., startups, mid-sized, large enterprises)
- Identify salary differentials

Slide 9: Key Findings and Insights

- Summarize the key findings from the analysis
- Highlight any surprising or unexpected results
- Discuss the implications of the findings

Slide 10: Conclusion

- Recap the project objectives and outcomes
- Potential areas for further analysis
- Recommendations based on the findings





About Us

Analyzing salary data from San Francisco city employees using SQL.

Aimed to uncover insights into salary distributions, trends, and disparities.

Dataset Used:

San Francisco employee salary dataset.
Includes fields such as employee names, job titles, departments, and salaries.
Methodology:

Utilized SQL queries to extract, transform, and analyze data.

Queries focused on calculating averages, identifying top earners, and exploring salary distributions by department and job title.

Key Findings:

Discovered average salaries across different departments.

Identified the highest and lowest-paid job titles.

Examined salary disparities and trends within the dataset.

Implications:

Insights gained can inform HR policies and salary structures.

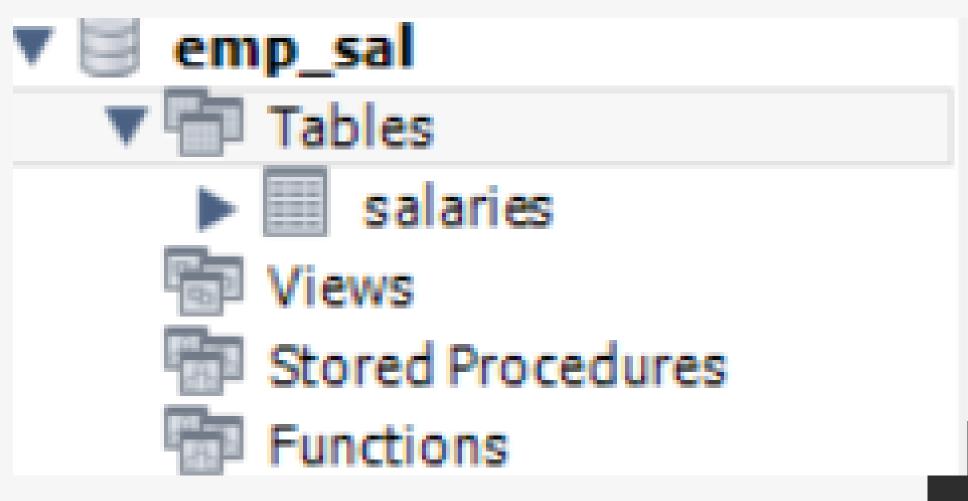
Provides a basis for further analysis and decision-making regarding compensation.

Conclusion:

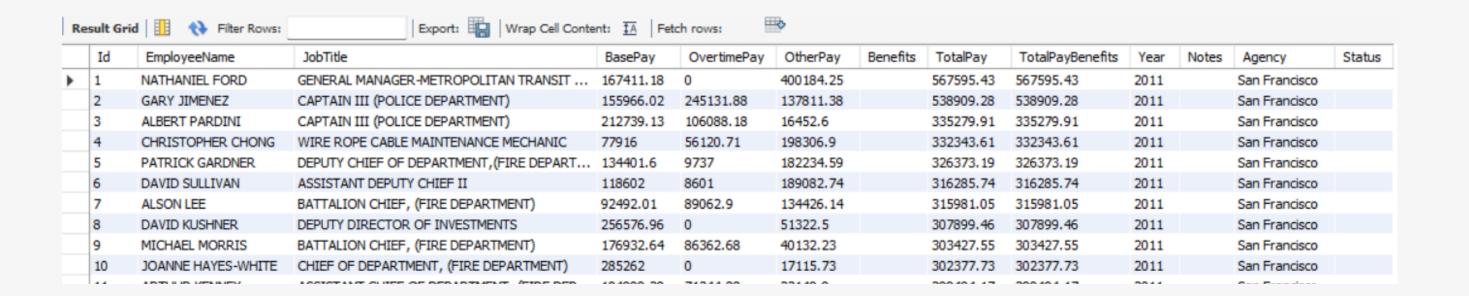
Project successfully achieved its objectives of analyzing and deriving insights from San Francisco salary data using SQL.

Recommendations for future studies or improvements based on findings.

create database Emp_sal



- # Q1 Show all the columns and rows in the table
- 2 select * from salaries;



#Q2 Show only the EmployeeName and Jobtitle columns
select EmployeeName, JobTitle from salaries

Re	sult Grid 🔢 🙌 Filter	r Rows: Export: Wrap Cell Content: TA Fetch rows:
	EmployeeName	JobTitle
•	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT
	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)
	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)
	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC
	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART
	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II
	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)
	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS
	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)
	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)
	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP

Q3 Show the number of employees in the table
select count(*) from salaries;

Res	sult Grid 🎚	43	Filter Rows:	Export:	Wrap Cell Content:	<u>‡A</u>
	count(*)					
•	1809					

#Q4 Show the unique job titles in the table
select distinct JobTitle from salaries;

Result Grid	Export: Wrap Cell Content:
JobTitle	
CHIEF OF POLICE	
DEPUTY CHIEF III (POLICE DEPARTMENT)	
INSPECTOR III, (POLICE DEPARTMENT)	
ELECTRONIC MAINTENANCE TECHNICIAN	
ADMINISTRATOR, SFGH MEDICAL CENTER	
LIEUTENANT III (POLICE DEPARTMENT)	
FIREFIGHTER	
NURSING SUPERVISOR PSYCHIATRIC	
MAYOR	
LIEUTENANT, FIRE DEPARTMENT	
INCIDENT SUPPORT SPECIALIST	

```
# Q5 Show the job title and overtime pay for all employees with
## overtime pay greater than 5000
select JobTitle,OvertimePay from salaries
where OvertimePay > 50000;
```

	JobTitle	OvertimePay
•	CAPTAIN III (POLICE DEPARTMENT)	245131.88
	CAPTAIN III (POLICE DEPARTMENT)	106088.18
	WIRE ROPE CABLE MAINTENANCE MECHANIC	56120.71
	BATTALION CHIEF, (FIRE DEPARTMENT)	89062.9
	BATTALION CHIEF, (FIRE DEPARTMENT)	86362.68
	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	71344.88
	CAPTAIN III (POLICE DEPARTMENT)	87082.62
	BATTALION CHIEF, (FIRE DEPARTMENT)	74050.3
	COMMANDER III, (POLICE DEPARTMENT)	73478.2
	CAPTAIN, EMERGENCYCY MEDICAL SERVICES	119397.26
	BATTALION CHIEF, (FIRE DEPARTMENT)	69626.12

Q6 Show the average base pay for all employees
select Avg(BasePay) as "Avg Basepay" from salaries;



Q7 Show the top 10 highest paid employees,
select EmployeeName, TotalPay from salaries
order by TotalPay desc
limit 10;

Re	sult Grid 🔢 🙌 Filter	Rows:	Export:	Wrap Cell Content:	‡A	Fetch rows:	
	EmployeeName	TotalPay					
•	NATHANIEL FORD	567595.43					
	GARY JIMENEZ	538909.28					
	ALBERT PARDINI	335279.91					
	CHRISTOPHER CHONG	332343.61					
	PATRICK GARDNER	326373.19					
	DAVID SULLIVAN	316285.74					
	ALSON LEE	315981.05					
	DAVID KUSHNER	307899.46					
	MICHAEL MORRIS	303427.55					
	JOANNE HAYES-WHITE	302377.73					

#Q8 Show the average of BasePay, OverTime Pay, and otherPay for each employee;
select EmployeeName, (BasePay+ OvertimePay+OtherPay)/3 as avg_of_bp_op_otherpay from salaries;

Re	sult Grid 📗 🙌 Filter	Rows:	Export:	Wrap Cell Content:	‡A	Fetch rows:	•
	EmployeeName	avg_of_bp_op_otherpay					
)	NATHANIEL FORD	189 198. 47666666665					
	GARY JIMENEZ	179636.42666666667					
	ALBERT PARDINI	111759.96999999999					
	CHRISTOPHER CHONG	110781.20333333333					
	PATRICK GARDNER	108791.06333333334					
	DAVID SULLIVAN	105428.58					
	ALSON LEE	105327.01666666666					
	DAVID KUSHNER	102633.15333333333					
	MICHAEL MORRIS	101142.51666666666					
	JOANNE HAYES-WHITE	100792.57666666666					
	ARTHUR KENNEY	99831.3900000001					

Q9 Show all employees who have the word "Manager" in their job title select EmployeeName, JobTitle from salaries where JobTitle like "%Manager%";

Re	sult Grid 🔢 🙌 Filte	er Rows: Export: Wrap Cell Content: TA
	EmployeeName	JobTitle
•	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT
	EDWARD REISKIN	GENERAL MANAGER-METROPOLITAN TRANSIT
	KEVIN BARRY	MANAGER VII
	MIVIC HIROSE	MANAGER VIII
	JULIE LABONTE	MANAGER VIII
	AMPARO RODRIGUEZ	NURSE MANAGER
	HARVEY ELWIN	MANAGER VIII
	SUSAN BUCHBINDER	MANAGER VIII
	JOHN BROWN	MANAGER VIII
	ROSELYN JEQUINTO	NURSE MANAGER
	COLLEEN RILEY	MANAGER VIII

#Q10 Show all employees with a job title not equal to "Manager"
select EmployeeName, JobTitle from salaries
where JobTitle <>'Manager';

Re	sult Grid 🔢 🙌 Filter	Rows: Export: Wrap Cell Content: TA Fetch rows:
	EmployeeName	JobTitle
•	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT
	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)
	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)
	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC
	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART
	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II
	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)
	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS
	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)
	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)
	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP

Q11 Show all the Employees with a total pay between 50,0000 and 75,000
select * from salaries
where TotalPay between 50000 and 750000;

Re	sult Grid	I B ther Rows:	Export: Wrap Cell Conte	nt: 🚻 Feto	th rows:	•							
	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Notes	Agency	Status
•	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT	167411.18	0	400184.25		567595.43	567595.43	2011		San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011		San Francisco	
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011		San Francisco	
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011		San Francisco	
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART	134401.6	9737	182234.59		326373.19	326373.19	2011		San Francisco	
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011		San Francisco	
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011		San Francisco	
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011		San Francisco	
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011		San Francisco	
	10	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262	0	17115.73		302377.73	302377.73	2011		San Francisco	
	11	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	194999.39	71344.88	33149.9		299494.17	299494.17	2011		San Francisco	

```
# Q12 Show All employees with a base pay less then 50,000
# or a total pay greater than 100,000.
select * from salaries
where BasePay < 50000 or TotalPay > 1000000;
```

Re	sult Grid	d III 💎 Filter Rows:	Export: Wrap Cell Conte	nt: <u>‡A</u> Fet	ch rows:	\$							
	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Notes	Agency	Status
•	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT	167411.18	0	400184.25		567595.43	567595.43	2011		San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011		San Francisco	
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011		San Francisco	
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011		San Francisco	
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART	134401.6	9737	182234.59		326373.19	326373.19	2011		San Francisco	
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011		San Francisco	
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011		San Francisco	
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011		San Francisco	
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011		San Francisco	
	10	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262	0	17115.73		302377.73	302377.73	2011		San Francisco	
	11	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	194999.39	71344.88	33149.9		299494.17	299494.17	2011		San Francisco	

#Q13 Show All employees with a total pay Benefits value
-- between 125,000 and 150,000 and a job title containing the word "Director'
Select * from salaries
where TotalPayBenefits between 125000 and 150000
and JobTitle LIKE "%Director%";

R	esult Grid	d Hiter Rows:	Export: Wrap Cell Conte	ent: 🚻 Fet	ch rows:	*							
	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Notes	Agency	Status
١	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT	167411.18	0	400 184.25		567595.43	567595.43	2011		San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011		San Francisco	
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011		San Francisco	
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011		San Francisco	
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART	134401.6	9737	182234.59		326373.19	326373.19	2011		San Francisco	
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011		San Francisco	
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011		San Francisco	
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011		San Francisco	
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011		San Francisco	
	10	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262	0	17115.73		302377.73	302377.73	2011		San Francisco	
	11	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	194999.39	71344.88	33149.9		299494.17	299494.17	2011		San Francisco	

#Q14 Show all employee ordered by their total pay benefits in desending orders
select * from salaries
order by TotalPayBenefits desc

Res	ult Grid	Filter Rows:	Export: Wrap Cell Conte	nt: TA Feto	ch rows:	•							
	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Notes	Agency	Status
•	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT	167411.18	0	400 184.25		567595.43	567595.43	2011		San Francisco	
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011		San Francisco	
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011		San Francisco	
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011		San Francisco	
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART	134401.6	9737	182234.59		326373.19	326373.19	2011		San Francisco	
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011		San Francisco	
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011		San Francisco	
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011		San Francisco	
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011		San Francisco	
	10	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262	0	17115.73		302377.73	302377.73	2011		San Francisco	
	11	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	194999.39	71344.88	33149.9		299494.17	299494.17	2011		San Francisco	

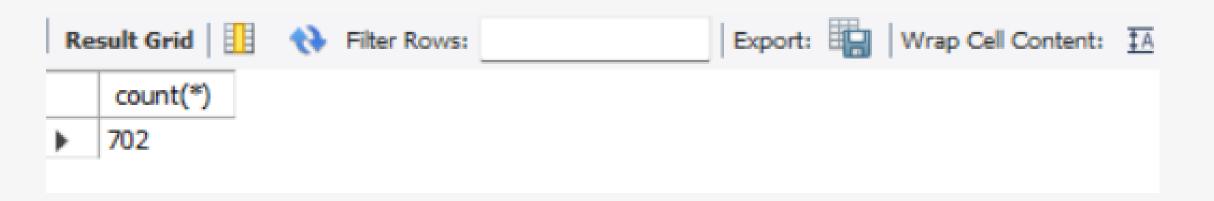
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#Q15 Show all Job titles with an average base pay of
# at least 100,000 and order then by the average base pay in desending order
select JobTitle, avg(BasePay) as "avgbasepay" from salaries
group by JobTitle
having avg(BasePay) >=100000
order by avgbasepay desc
```

Re	sult Grid	Export: Wrap Cell Content: 1A
	JobTitle	avgbasepay
•	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262
	EXECUTIVE CONTRACT EMPLOYEE	264452.52
	DEPUTY DIRECTOR OF INVESTMENTS	256576.96
	CHIEF OF POLICE	256470.41
	DEPARTMENT HEAD V	254127.1033333333
	MAYOR	249375.02
	ADMINISTRATOR, SFGH MEDICAL CENTER	245124.44
	PORT DIRECTOR	233357.28
	ASSISTANT MEDICAL EXAMINER	231608.555
	DISTRICT ATTORNEY	220983.12
	DEPUTY CHIEF III (POLICE DEPARTMENT)	219758.72599999997

Q16 Delete the Columns
select * from salaries;
alter table salaries
drop column Notes;
select * from salaries

Result Grid													
	Id	EmployeeName	JobTitle	BasePay	OvertimePay	OtherPay	Benefits	TotalPay	TotalPayBenefits	Year	Agency	Status	
•	1	NATHANIEL FORD	GENERAL MANAGER-METROPOLITAN TRANSIT	167411.18	0	400184.25		567595.43	567595.43	2011	San Francisco		
	2	GARY JIMENEZ	CAPTAIN III (POLICE DEPARTMENT)	155966.02	245131.88	137811.38		538909.28	538909.28	2011	San Francisco		
	3	ALBERT PARDINI	CAPTAIN III (POLICE DEPARTMENT)	212739.13	106088.18	16452.6		335279.91	335279.91	2011	San Francisco		
	4	CHRISTOPHER CHONG	WIRE ROPE CABLE MAINTENANCE MECHANIC	77916	56120.71	198306.9		332343.61	332343.61	2011	San Francisco		
	5	PATRICK GARDNER	DEPUTY CHIEF OF DEPARTMENT, (FIRE DEPART	134401.6	9737	182234.59		326373.19	326373.19	2011	San Francisco		
	6	DAVID SULLIVAN	ASSISTANT DEPUTY CHIEF II	118602	8601	189082.74		316285.74	316285.74	2011	San Francisco		
	7	ALSON LEE	BATTALION CHIEF, (FIRE DEPARTMENT)	92492.01	89062.9	134426.14		315981.05	315981.05	2011	San Francisco		
	8	DAVID KUSHNER	DEPUTY DIRECTOR OF INVESTMENTS	256576.96	0	51322.5		307899.46	307899.46	2011	San Francisco		
	9	MICHAEL MORRIS	BATTALION CHIEF, (FIRE DEPARTMENT)	176932.64	86362.68	40132.23		303427.55	303427.55	2011	San Francisco		
	10	JOANNE HAYES-WHITE	CHIEF OF DEPARTMENT, (FIRE DEPARTMENT)	285262	0	17115.73		302377.73	302377.73	2011	San Francisco		
	11	ARTHUR KENNEY	ASSISTANT CHIEF OF DEPARTMENT, (FIRE DEP	194999.39	71344.88	33149.9		299494.17	299494.17	2011	San Francisco		

```
# Q17 Delete all employees who have no overtimePay
select count(*) from salaries
where OvertimePay = 0;
delete from salaries
```



Thank you for Like Share Comment

For Presentation Sf Salary 2024 8 august 2024

Tarun Gehlot