SQL PROJECT

Employee Data Analysis

Presentation By:
Amrit Kumar

1. Retrieve the total number of employees in the dataset.

```
1 •  use psyliq;
2 •  SELECT * FROM psyliq.employee_survey_data;
3 •  SELECT * FROM psyliq.manager_survey_data;
4 •  SELECT * FROM psyliq.general_hr_data;
5
6    # 1. Retrieve the total number of employees in the dataset.
7 •  SELECT COUNT(*) AS total_employees
8    FROM employee_survey_data;
```

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

total_employees
4327

2. List all unique job roles in the dataset.

```
10    # 2. List all unique job roles in the dataset.
11 •  SELECT DISTINCT JobRole
12    FROM general_hr_data;
```

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

JobRole
Healthcare Representative
Research Scientist
Sales Executive
Human Resources
Research Director
Laboratory Technician
Manufacturing Director
Sales Representative
Manager

3. Find the average age of employees.

```
15    # 3. Find the average age of employees.
16 •  SELECT AVG(Age) AS Average_age
17    FROM general_hr_data;
```

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

Average_age
36.9334

4. Retrieve the names and ages of employees who have worked at the company for more than 5 years.

```
19    # 4. Retrieve the names and ages of employees who have worked at the company for more than 5 years.
20 •  SELECT Employee_name AS Employees_Name, Age
21    FROM general_hr_data
22    WHERE YearsAtCompany < 5;
```

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

Employees_Name	Age
Amanda Daniels	51
Virginia Clayton DVM	28
Erica Maxwell	29
Joseph Mcintyre	21
Gina Moore	44
Christopher Rowland	38
Wendy Gibson	26
Cynthia Bradley	49
Cynthia Brown	31
Laura Gonzalez	37
Eric Davis	18
Robert Johnson	36
Taylor Baker	51

5. Get a count of employees grouped by their department.

```
24    # 5. Get a count of employees grouped by their department.
25 •  SELECT Department, COUNT(*) AS Employee_count
26    FROM general_hr_data
27    GROUP BY Department;
```

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

Department	Employee_count
Sales	1330
Research & Development	2865
Human Resources	187

6. List employees who have 'High' Job Satisfaction.

```
29    # 6. List employees who have 'High' Job Satisfaction.
30 •  SELECT EmployeeID, Employee_name
31    FROM general_hr_data
32    WHERE joblevel = 3;
```

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

EmployeeID	Employee_name
4	Richard Fisher
9	Katelyn Hartman
31	Wendy Gibson
34	William Smith
38	Alexandra Hall
41	Robert Johnson
50	Dr. Patricia Johnson
52	Mark Morgan
59	Amanda Christian
61	Cindy Schultz
62	Nathan Mitchell
80	Maria Jones
85	Morgan Thomas
86	Bradley Petersen
87	Patrick Andrews
93	Heather Gutierrez

7. Find the highest Monthly Income in the dataset.

```
35    #7. Find the highest Monthly Income in the dataset.
36 •  SELECT MAX(MonthlyIncome) as Max_Monthly_Income
37    FROM general_hr_data;
```

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

Max_Monthly_Income
199990

8. List employees who have 'Travel_Rarely' as their BusinessTravel type.

```
40    #8. List employees who have 'Travel_Rarely' as their BusinessTravel type.
41 •  SELECT EmployeeID, Employee_name as Employees_who_Travel_Rarely
42    FROM general_hr_data
43    WHERE BusinessTravel IN ('Travel_Rarely');
```

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

EmployeeID	Employees_who_Travel_Rarely
1	Amanda Daniels
5	Heather Shaffer
6	Michael Duke
7	Virginia Clayton DVM
8	Erica Maxwell
9	Katelyn Hartman
11	Natalie Fields
12	Theresa Martinez
13	Michael Marks
15	Jennifer Olson
16	Eric Johnson
17	Joseph Mcintyre
19	Jon Garcia
20	Nicole Taylor
22	Kevin Nichols
23	Angela Good
26	Nina Rodriguez
28	Mr. Robert Byrd MD

9. Retrieve the distinct MaritalStatus categories in the dataset.

```
46    #9. Retrieve the distinct MaritalStatus categories in the dataset.
47 •  SELECT DISTINCT(MaritalStatus) as MaritalStatus_Categories_Wise
48    FROM general_hr_data;
49
```

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

MaritalStatus_Categories_Wise
Married
Single
Divorced

10.Get a list of employees with more than 2 years of work experience but less than 4 years in their current role.

```
50  #10. Get a list of employees with more than 2 years of work experience but less than 4 years in their current role.
51  SELECT EmployeeID, Employee_name as `Employee with years between 2 and 4 at Company`
52  FROM general_hr_data
53  WHERE TotalWorkingYears > 2 AND YearsAtCompany < 4;
```

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

EmployeeID	Employee with years between 2 and 4 at Company
7	Virginia Clayton DVM
8	Erica Maxwell
17	Joseph Mcintyre
29	Gina Moore
30	Christopher Rowland
31	Wendy Gibson
33	Cynthia Bradley
41	Robert Johnson
53	Robin Becker
55	Cynthia Porter
66	Kara Frazier MD
70	Brandi Petersen
72	Amanda Medina
76	Ronald Ortiz
80	Maria Jones

11. List employees who have changed their job roles within the company (JobLevel and JobRole differ from their previous job).

```
55  #11. List employees who have changed their job roles within the company (JobLevel and JobRole differ from their previous job).
56  SELECT EmployeeID, Employee_name, CurrentJobRole, CurrentJobLevel
57  FROM (SELECT EmployeeID, Employee_name, JobRole AS CurrentJobRole, JobLevel AS CurrentJobLevel,
58            LEAD(JobRole, 1) OVER (PARTITION BY EmployeeID ORDER BY YearsAtCompany) AS PreviousJobRoles,
59            LEAD(JobLevel, 1) OVER (PARTITION BY EmployeeID ORDER BY YearsAtCompany) AS PreviousJobLevels
60            FROM general_hr_data) AS `Jobs Change`
61            WHERE CurrentJobRole <> PreviousJobRoles OR CurrentJobLevel <> PreviousJobLevels;
62
```

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

EmployeeID	Employee_name	CurrentJobRole	CurrentJobLevel

12. Find the average distance from home for employees in each department.

```
64    #12. Find the average distance from home for employees in each department.
65 •  SELECT Department, avg(DistanceFromHome) as `Average Distance from Home to Office`
66    FROM general_hr_data
67    GROUP BY Department;
```

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

Department	Average Distance from Home to Office
Sales	9.2414
Research & Development	9.2387
Human Resources	8.2888

13. Retrieve the top 5 employees with the highest MonthlyIncome.

```
69    #13. Retrieve the top 5 employees with the highest MonthlyIncome.
70 •  SELECT EmployeeID, Employee_name, MonthlyIncome
71    FROM general_hr_data
72    ORDER BY MonthlyIncome DESC
73    LIMIT 5;
74
```

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

EmployeeID	Employee_name	MonthlyIncome
386	Grace Wheeler	199990
1856	Brandon Fuller	199990
3326		199990
942	Jonathan Hunt	199730
3882		199730

14. Calculate the percentage of employees who have had a promotion in the last year.

```
75    #14. Calculate the percentage of employees who have had a promotion in the last year.
76 •  SELECT COUNT(CASE WHEN YearsSinceLastPromotion<= 1 THEN 1 END) AS `Employees With Promotion Last Year`,COUNT(*) AS `Total Employees`,
77    (COUNT(CASE WHEN YearsSinceLastPromotion <= 1 THEN 1 END) * 100.0 / COUNT(*)) AS `Percentage Promoted Last Year`
78    FROM general_hr_data;
```

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

Employees With Promotion Last Year	Total Employees	Percentage Promoted Last Year
2792	4382	63.71520

15. List the employees with the highest and lowest EnvironmentSatisfaction.

```
80    #15. List the employees with the highest and lowest EnvironmentSatisfaction.
81 •  SELECT a.EmployeeID, a.Employee_name, b.environmentsatisfaction
82    FROM general_hr_data a JOIN employee_survey_data b ON a.EmployeeID = b.EmployeeID
83    WHERE b.EnvironmentSatisfaction IN (
84    SELECT MAX(EnvironmentSatisfaction)
85    FROM employee_survey_data
86    UNION
87    SELECT MIN(EnvironmentSatisfaction)
88    FROM employee_survey_data);
```

16. Find the employees who have the same JobRole and MaritalStatus.

```
91    #16. Find the employees who have the same JobRole and MaritalStatus.
92 •  SELECT EmployeeID, Employee_name, JobRole, MaritalStatus FROM general_hr_data e1
93    WHERE EXISTS (SELECT 1
94                  FROM general_hr_data e2
95                  WHERE e1.EmployeeID <> e2.EmployeeID AND e1.JobRole = e2.JobRole AND e1.MaritalStatus = e2.MaritalStatus)
96                  ORDER BY JobRole, MaritalStatus, EmployeeID, Employee_name;
```

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

EmployeeID	Employee_name	JobRole	MaritalStatus
64	Eric Harris	Healthcare Representative	Divorced
83	Angela Colon	Healthcare Representative	Divorced
147	Nicholas Thompson	Healthcare Representative	Divorced
152	Michael Roberts	Healthcare Representative	Divorced
161	Grant Rodriguez	Healthcare Representative	Divorced
203	Zachary Alvarez	Healthcare Representative	Divorced
234	Emily Tate	Healthcare Representative	Divorced
262	Cody Brown	Healthcare Representative	Divorced
300	Michael Gray	Healthcare Representative	Divorced
368	Tonya Wiley	Healthcare Representative	Divorced
372	Justin Herrera	Healthcare Representative	Divorced
400	Kevin Miller	Healthcare Representative	Divorced
447	Heather Price	Healthcare Representative	Divorced
456	Thomas Frederick	Healthcare Representative	Divorced
467	Crystal Roberts	Healthcare Representative	Divorced
468	Alisha Petersen	Healthcare Representative	Divorced
521	Cindy Horn	Healthcare Representative	Divorced

17. List the employees with the highest TotalWorkingYears who also have a PerformanceRating of 4.

```
98    # 17. List the employees with the highest TotalWorkingYears who also have a PerformanceRating of 4.
99    SELECT a.EmployeeID, a.Employee_name
100   FROM general_hr_data a JOIN manager_survey_data b ON a.EmployeeID = b.EmployeeID
101   WHERE b.PerformanceRating = 4 AND a.TotalWorkingYears = (SELECT MAX(TotalWorkingYears)
102                                                            FROM general_hr_data
103                                                            WHERE EmployeeID IN (SELECT EmployeeID
104                                                                                 FROM manager_survey_data
105                                                                                 WHERE PerformanceRating = 4));
```

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

EmployeeID	Employee_name
786	Daniel Barton
2256	Amber Williams
3726	

18. Calculate the average Age and JobSatisfaction for each BusinessTravel type.

```
107    # 18. Calculate the average Age and JobSatisfaction for each BusinessTravel type.
108 •  SELECT AVG(age) as `Average Age`, AVG(JobSatisfaction) as `Job Satisfaction Average`
109    FROM general_hr_data a join employee_survey_data b on a.EmployeeID = b.EmployeeID
110    GROUP BY BusinessTravel;
```

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

Average Age	Job Satisfaction Average
37.1036	2.7001
36.4722	2.7886
36.5386	2.7795

19. Retrieve the most common EducationField among employees.

```
112    # 19. Retrieve the most common EducationField among employees.
113 •  SELECT EducationField, COUNT(*) AS FieldCount
114    FROM general_hr_data
115    GROUP BY EducationField
116    ORDER BY COUNT(*) DESC
117    Limit 1;
```

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

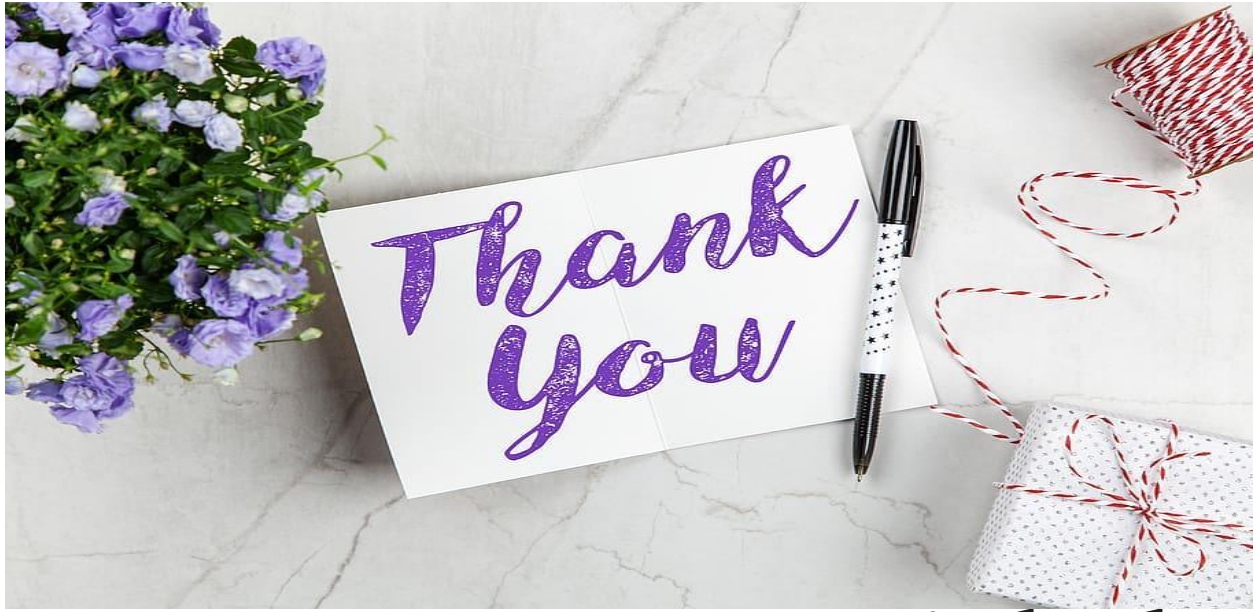
	EducationField	FieldCount
▶	Life Sciences	1806

20. List the employees who have worked for the company the longest but haven't had a promotion.

```
119    # 20. List the employees who have worked for the company the longest but haven't had a promotion.
120 •  SELECT EmployeeID, Employee_name, YearsAtCompany, YearsSinceLastPromotion
121    FROM general_hr_data
122    WHERE YearsAtCompany = (SELECT MAX(YearsAtCompany)
123                            FROM general_hr_data) AND YearsSinceLastPromotion = 0;
```

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

EmployeeID	Employee_name	YearsAtCompany	YearsSinceLastPromotion



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Amrit Kumar