Task 1: HR Analysis

SQL Internship at Psyliq

By Utsav Raj

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

⟹ SELECT count(EmployeeID) FROM general_data;

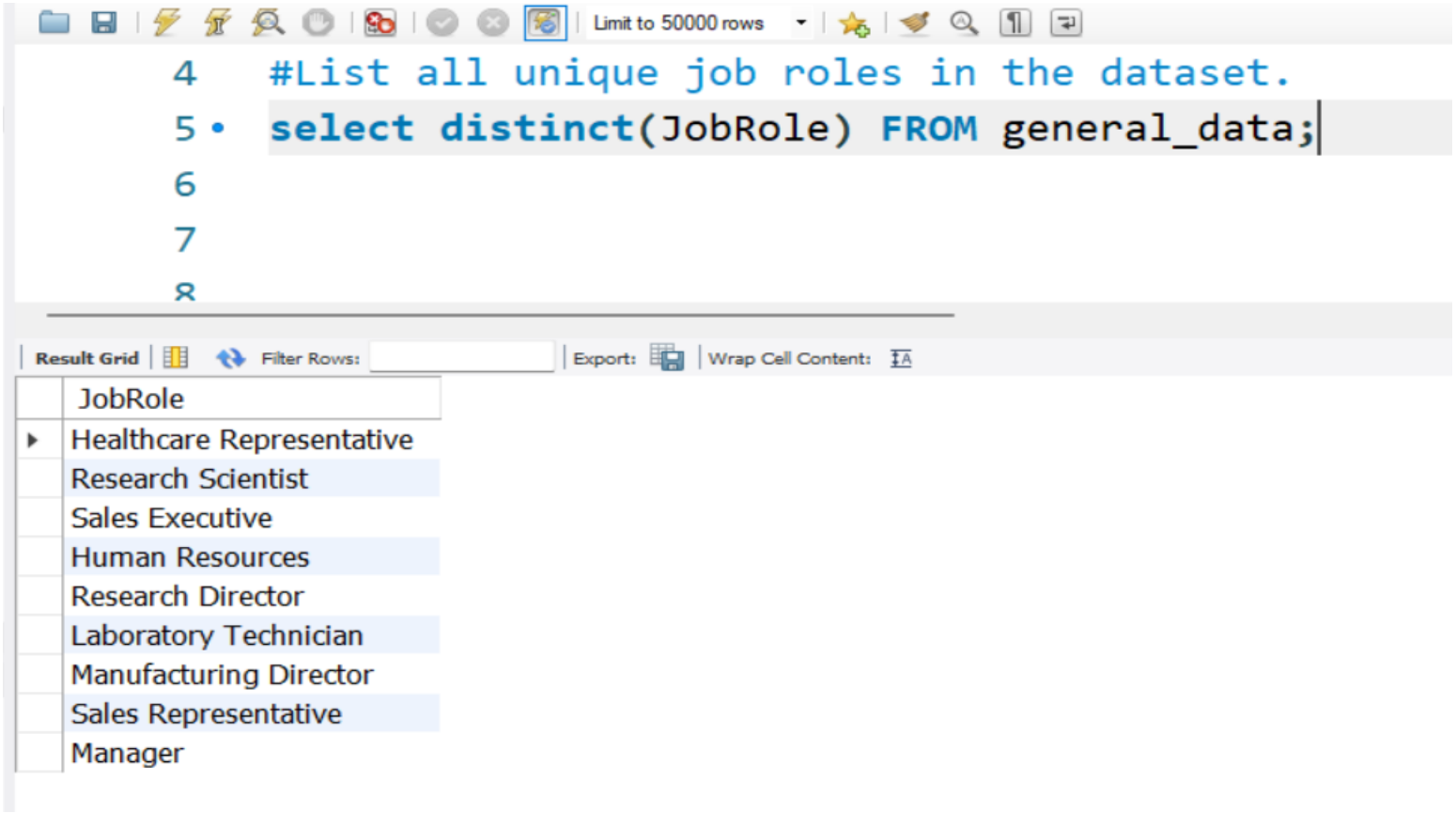
```
1   #Retrieve the total number of employees in the dataset.
2 • SELECT count(EmployeeID) FROM general_data;
```

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

count(EmployeeID)
4382

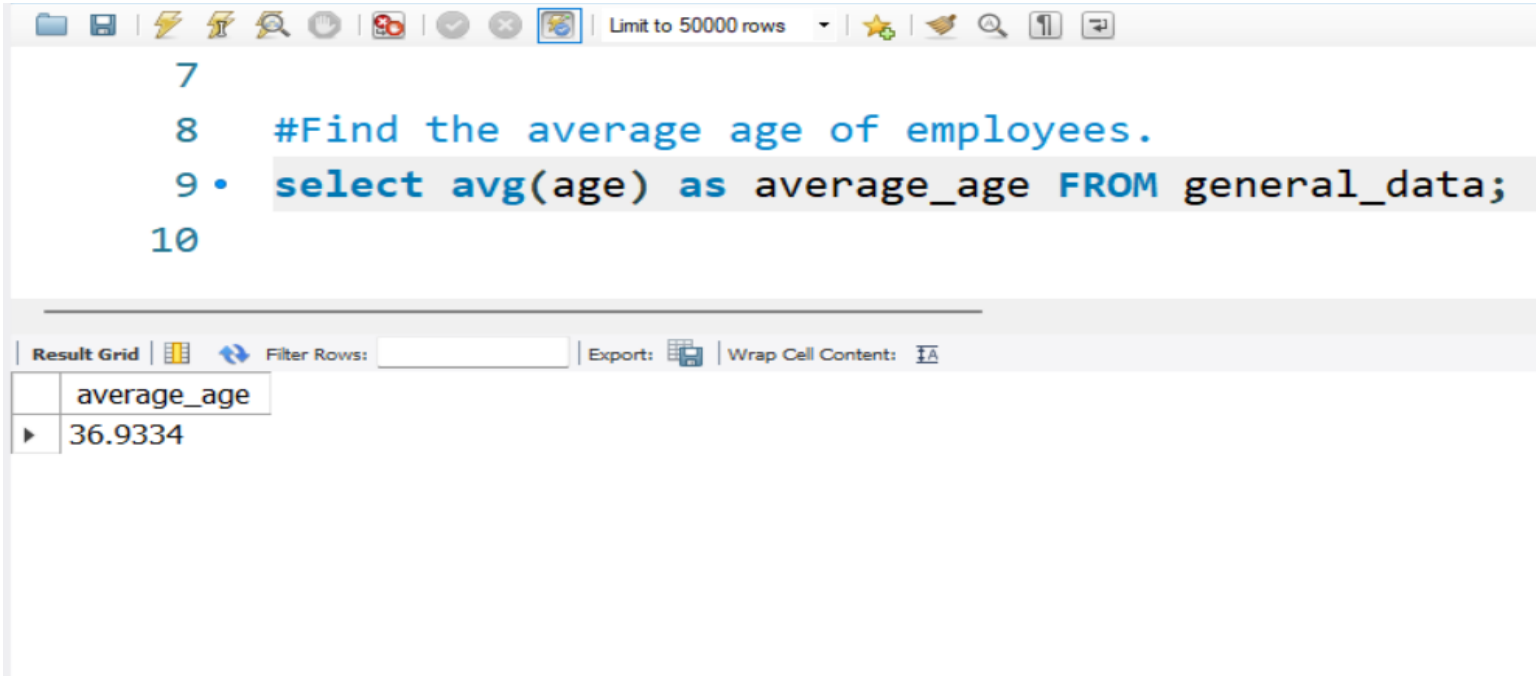
2. List all unique job roles in the dataset.

➡ select distinct(JobRole) FROM general_data;



3. Find the average age of employees.

➡ select avg(age) as average_age FROM general_data;



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

select `Emp Name` as Employee_Name,Age FROM general_data where YearsAtCompany >5;

```
11  #Retrieve the names and ages of employees
12  #who have worked at the company for more than 5 years.
13  select `Emp Name` as Employee_Name,Age FROM general_data
14  where YearsAtCompany >5;
```

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

Employee_Name	Age
RENEE MARQUARDT	38
HARVEY ELWIN	32
LEON WHITE	46
NATHAN HARDY	31
SUSAN BUCHBINDER	25
KIRSTEN BARASH	45
DENNIS SUTTER	36
JOHN BROWN	55
KATHRYN BALLOU	47
GRAD GREEN	35
DARCY KELLER	38
SAMUEL ROMERO	26
ALEXANDER CHEN	50
THOMAS HARVEY	29
MARTIN BELTRAN	55
ROBERT TAI	37

general_data 20

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

➡ select Department, count(*) as Employee_count FROM general_data group by Department;

```
17
18   #Get a count of employees grouped by their department.
19 • select Department,count(*) as Employee_count FROM general_data
20   group by Department;
21
```

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

Department	Employee_count
Sales	1330
Research & Developm...	2865
Human Resources	187

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

select `Emp Name`as Employee_name,JobSatisfaction from general_data gd join employee_survey_data ed on ed.EmployeeID=gd.EmployeeID where ed.JobSatisfaction = 3;

```
23
24   #List employees who have 'High' Job Satisfaction.
25 • select `Emp Name`as Employee_name,JobSatisfaction from general_data gd
26   join employee_survey_data ed on ed.EmployeeID=gd.EmployeeID
27   where ed.JobSatisfaction = 3;
28
```

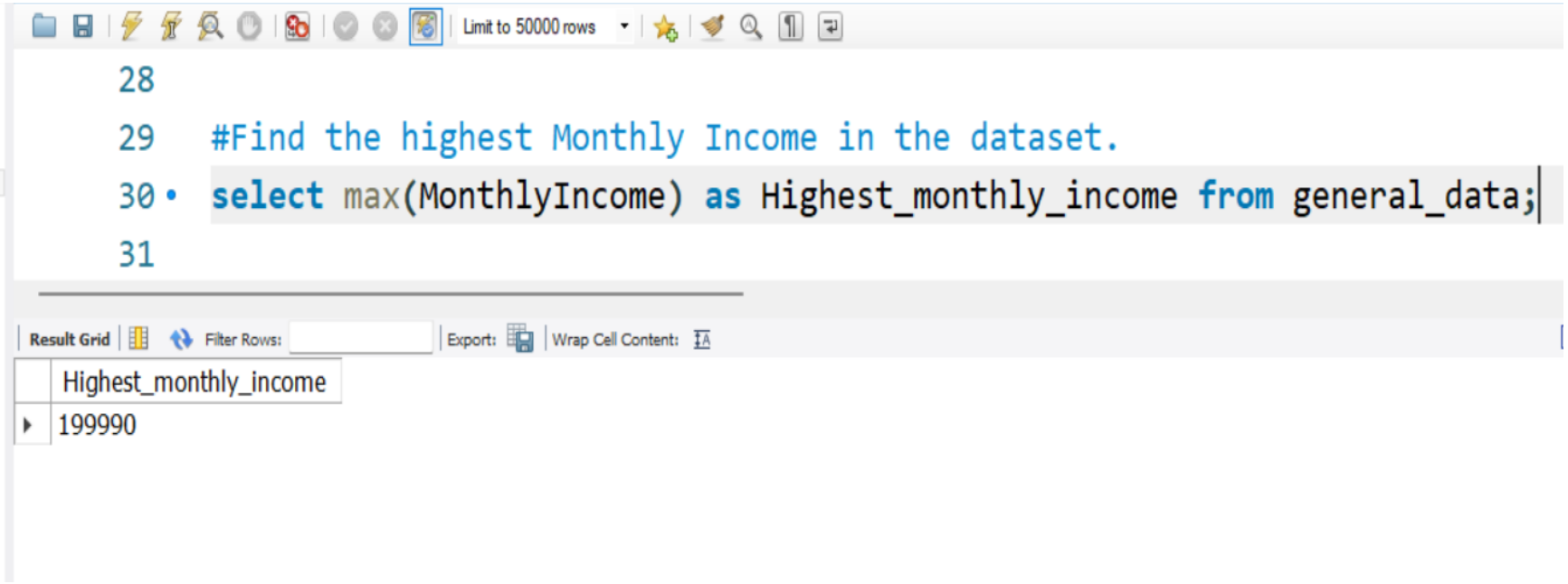
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Employee_name	JobSatisfaction
DENNIS HERRERA	3
GEORGE FOURAS	3
OLLIE BANKS	3
CHRISTOPHER HAZEN	3
CROCE CASCIATO	3
GERARDO PINTO	3
ALAN HARVEY	3
BARBARA SCHULTHEIS	3
BARRY BLOOM	3
ARNOLD CHOY	3
JOHN EHRLICH	3
ARTHUR STELLINI	3
MICHAEL SIMMONS	3
RUBY MARTIN	3

Result 26

7. Find the highest Monthly Income in the dataset.

→ select max(MonthlyIncome) as Highest_monthly_income from general_data;



8. List employees who have 'Travel_Rarely' as their Business Travel type.

⟹ select `Emp Name` as Employee_name,BusinessTravel from general_data where BusinessTravel='Travel_Rarely';

```
Limit to 50000 rows
32  #List employees who have 'Travel_Rarely' as their Business Travel type.
33  select `Emp Name` as Employee_name,BusinessTravel from general_data
34  where BusinessTravel='Travel_Rarely';
35
```

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

Employee_name	BusinessTravel
ALBERTO PEDRUCO	Travel_Rarely
HARVEY ELWIN	Travel_Rarely
LEON WHITE	Travel_Rarely
DENNIS HERRERA	Travel_Rarely
DONALD BRYANT	Travel_Rarely
NATHAN HARDY	Travel_Rarely
KIRSTEN BARASH	Travel_Rarely
DENNIS SUTTER	Travel_Rarely
JOHN BROWN	Travel_Rarely
DONALD FIELDS	Travel_Rarely
LUIS HERRERA	Travel_Rarely
GEORGE FOURAS	Travel_Rarely
GRAD GREEN	Travel_Rarely
DARCY KELLER	Travel_Rarely
ALEXANDER CHEN	Travel_Rarely
OLLIE BANKS	Travel_Rarely
MARTIN BELTRAN	Travel_Rarely

general_data 28 ×

9. Retrieve the distinct Marital Status categories in the dataset.

➡ select distinct(MaritalStatus) from general_data;

```
Limit to 50000 rows

36
37   #Retrieve the distinct MaritalStatus categories in the dataset.
38 • select distinct(MaritalStatus) from general_data;
```

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

MaritalStatus
Married
Single
Divorced

Result 29 ×

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

⟹ select EmployeeID,`Emp name` as Employee_name from general_data where TotalWorkingYears >2 and YearsAtCompany <4;

```
Limit to 50000 rows
40  #Get a list of employees with more than 2 years of
41  #work experience but less than 4 years in
42  #their current role
43  select EmployeeID,`Emp name` as Employee_name from general_data
44  where TotalWorkingYears >2 and YearsAtCompany <4;
45
46
```

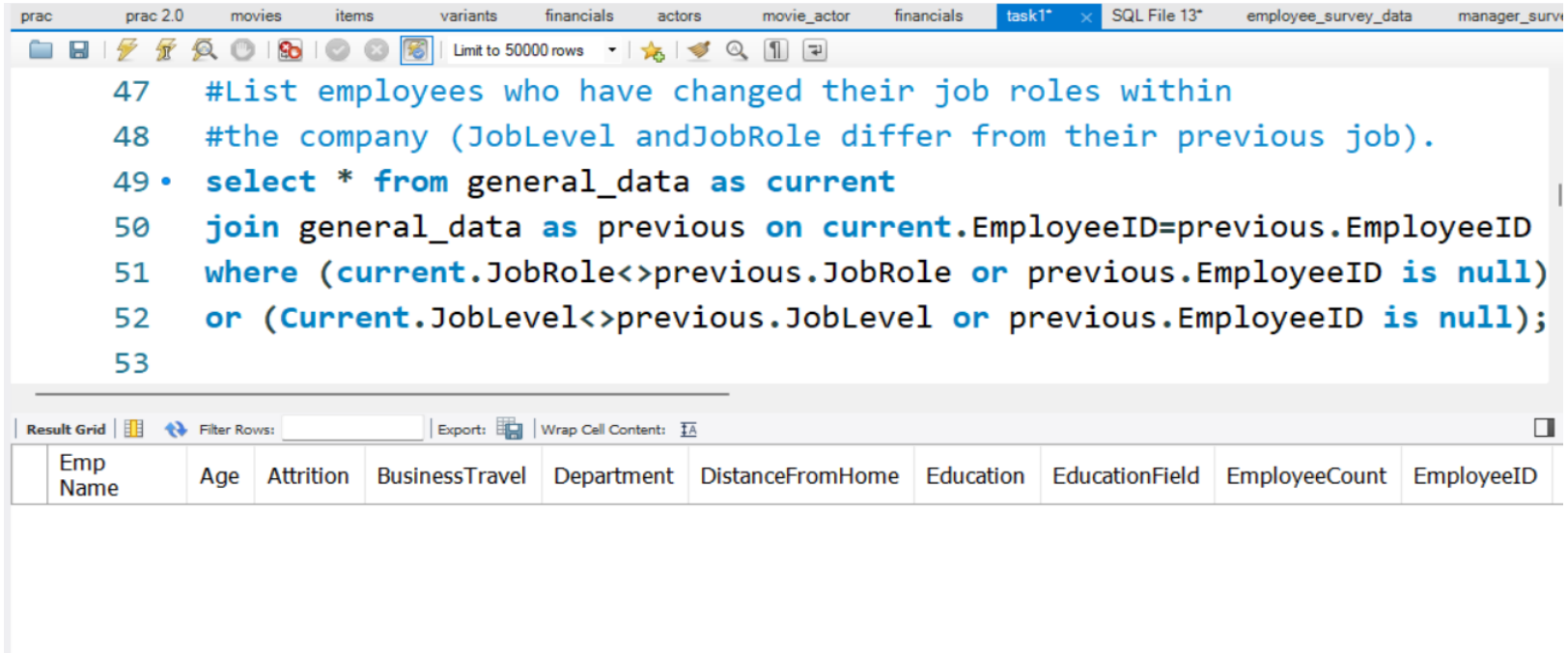
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

EmployeeID	Employee_name
7	DENNIS HERRERA
8	DONALD BRYANT
17	GEORGE FOURAS
29	CHRISTOPHER HAZEN
30	PIERRE FRANCOIS
31	ROSELYN JEQUINTO
33	COLLEEN RILEY
41	TIMOTHY SULLIVAN
53	STEPHEN TACCHINI
55	GREGORY MCFARLAND
66	ANDREW LOGAN
70	ARTHUR STELLINI
72	MICHAEL SIMMONS

general_data 30 ×

11. List employees who have changed their job roles within the company (Job Level and Job Role differ from their previous job).

➡ select * from general_data as current join general_data as previous on current.EmployeeID=previous.EmployeeIDwhere (current.JobRole<>previous.JobRole or previous.EmployeeID is null)or (Current.JobLevel<>previous.JobLevel or previous.EmployeeID is null);



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

⟹ select Department, round(avg(DistanceFromHome),2) as Avg_distance from general_data group by Department;

```
52
53  #Find the average distance from home for employees in each department.
54  select Department, round(avg(DistanceFromHome),2) as Avg_distance
55  from general_data group by Department;
56
57
```

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

Department	Avg_distance
Sales	9.24
Research & Developm...	9.24
Human Resources	8.29

Result 33

13. Retrieve the top 5 employees with the highest Monthly Income.

⟹ select EmployeeID, `Emp Name` as 'Top 5 Highest Paid Employee',MonthlyIncome from general_data order by MonthlyIncome desc limit 5;

```
57
58  #Retrieve the top 5 employees with the highest MonthlyIncome.
59  select EmployeeID, `Emp Name` as 'Top 5 Highest Paid Employee',
60  MonthlyIncome from general_data
61  order by MonthlyIncome desc limit 5;
62
63
```

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

EmployeeID	Top 5 Highest Paid Employee	MonthlyIncome
386	KEVIN LABANOWSKI	199990
1856	DAVID KUCIA	199990
3326	LAWRENCE LAU	199990
942	KEVIN MCNAUGHTON	199730
3882	SHANNON STABILE	199730

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

⟹ select count(*) as Total_employees,count(case when YearsSinceLastPromotion<=1 then 1 end) as Count_promotion_last_year, (count(case when YearsSinceLastPromotion<=1 then 1 end)*100/count(*)) as Percentage from general_data;

```
63
64   #Calculate the percentage of employees who have had a promotion
65   #in the last year.
66 • select count(*) as Total_employees,
67   count(case when YearsSinceLastPromotion<=1 then 1 end) as
68   Count_promotion_last_year,
69   (count(case when YearsSinceLastPromotion<=1 then 1 end)*100/count(*))
70   as Percentage from general_data;
71
72
```

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

Total_employees	Count_promotion_last_year	Percentage
4382	2792	63.7152

15. List the employees with the highest and lowest Environment Satisfaction.

⟹ select gd.EmployeeID,`Emp Name` as Employee_name, EnvironmentSatisfaction from general_data gdjoin employee_survey_data as ed on ed.EmployeeID=gd.EmployeeID where ed.EnvironmentSatisfaction in(select max(EnvironmentSatisfaction) from employee_survey_data unionselect min(EnvironmentSatisfaction) from employee_survey_data);

```
74  #List the employees with the highest and lowest EnvironmentSatisfaction.
75  select gd.EmployeeID,`Emp Name` as Employee_name,EnvironmentSatisfaction
76  from general_data gd
77  join employee_survey_data as ed on ed.EmployeeID=gd.EmployeeID
78  where ed.EnvironmentSatisfaction in
79  (select max(EnvironmentSatisfaction) from employee_survey_data union
80  select min(EnvironmentSatisfaction) from employee_survey_data);
```

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

EmployeeID	Employee_name	EnvironmentSatisfaction
4	RENEE MARQUARDT	4
5	HARVEY ELWIN	4
7	DENNIS HERRERA	1
8	DONALD BRYANT	1
13	JOHN BROWN	4
14	KATHRYN BALLOU	1
15	DONALD FIELDS	4
17	GEORGE FOURAS	4
18	MARTIN LALOR JR	1
20	DARCY KELLER	1
22	ALEXANDER CHEN	1
27	LORI BORGHI	1

Result 41

16. Find the employees who have the same Job Role and Marital Status.

select EmployeeId, `Emp Name` as Employee_Name, JobRole, MaritalStatusfrom general_data as a where exists (select 1 from general_data as bwhere a.EmployeeId<>b.EmployeeId and a.JobRole like b.JobRole anda.MaritalStatus like b.MaritalStatus) order by JobRole,MaritalStatus,EmployeeID;

```
83  #Find the employees who have the same JobRole and MaritalStatus.
84  select EmployeeId, `Emp Name` as Employee_Name, JobRole, MaritalStatus
85  from general_data as a where exists (select 1 from general_data as b
86  where a.EmployeeId<>b.EmployeeId and a.JobRole like b.JobRole and
87  a.MaritalStatus like b.MaritalStatus) order by JobRole,MaritalStatus,
88  EmployeeID;
89
```

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

EmployeeId	Employee_Name	JobRole	MaritalStatus
64	REGINA GOMEZ	Healthcare Representative	Divorced
83	CRISTINA REYES	Healthcare Representative	Divorced
147	ANN MANNIX	Healthcare Representative	Divorced
152	RYAN CREAN	Healthcare Representative	Divorced
161	LINDA ROSS	Healthcare Representative	Divorced
203	DANIEL ARMENTA	Healthcare Representative	Divorced
234	MICHAEL DALY	Healthcare Representative	Divorced
262	FUAD SWEISS	Healthcare Representative	Divorced
300	MANUEL PEGUEROS	Healthcare Representative	Divorced
368	ANDRE ANDREWS SR	Healthcare Representative	Divorced
372	EDWARD CHEUNG	Healthcare Representative	Divorced
400	FRANK KOSTA	Healthcare Representative	Divorced

general_data 43

17. List the employees with the highest Total Working Years who also have a Performance Rating of 4.

select gd.EmployeeID, gd.`Emp name` as Employee_namefrom general_data gd join manager_survey_data md on gd.EmployeeID = md.EmployeeID where md.PerformanceRating=4 and gd.TotalWorkingYears= (select max(TotalWorkingYears) from general_datawhere EmployeeId in (select EmployeeId from manager_survey_data where PerformanceRating =4))

```
91  #List the employees with the highest TotalWorkingYears
92  #who also have a PerformanceRating of 4.
93  select gd.EmployeeID, gd.`Emp name` as Employee_name
94  from general_data gd join manager_survey_data md on
95  gd.EmployeeID = md.EmployeeID where md.PerformanceRating=4 and
96  gd.TotalWorkingYears= (select max(TotalWorkingYears) from general_data
97  where EmployeeId in (select EmployeeId from manager_survey_data where
98  PerformanceRating =4))
99
```

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

EmployeeID	Employee_name
786	STEVEN SETO
2256	SHARON LEGENZA
3726	EMILY MURASE

18. Calculate the average Age and Job Satisfaction for each Business Travel type.

⟹ select BusinessTravel,Avg(age) as Average_age, avg(ed.JobSatisfaction)as Average_Job_satisfaction from general_data gd join employee_survey_data ed on gd.EmployeeId=ed.EmployeeId group by BusinessTravel;

```
101
102   #Calculate the average Age and JobSatisfaction
103   #for each BusinessTravel type.
104   select BusinessTravel,Avg(age) as Average_age, avg(ed.JobSatisfaction)
105   as Average_Job_satisfaction from general_data gd
106   join employee_survey_data ed on gd.EmployeeId=ed.EmployeeId
107   group by BusinessTravel;
```

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

BusinessTravel	Average_age	Average_Job_satisfaction
Travel_Rarely	37.1036	2.7001
Travel_Frequently	36.4722	2.7886
Non-Travel	36.5386	2.7795

19. Retrieve the most common Education Field among employees.

⟹ select EducationField,count(EducationField) as most_common_fieldfrom general_data group by EducationFieldorder by most_common_field desc limit 1;

```
110
111   #Retrieve the most common EducationField among employees.
112 • select EducationField,count(EducationField) as most_common_field
113   from general_data group by EducationField
114   order by most_common_field desc limit 1;
115
```

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

EducationField	most_common_field
Life Sciences	1806

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

select EmployeeId, `Emp Name` as Employee_name,YearsAtCompany,YearsSinceLastPromotion from general_datawhere YearsAtCompany in (select max(YearsAtCompany) from general_datawhere YearsSinceLastPromotion=0) and YearsSinceLastPromotion=0;

```
117  #List the employees who have worked for the company
118  #the longest but haven't had a promotion.
119  select EmployeeId, `Emp Name` as Employee_name,YearsAtCompany,
120  YearsSinceLastPromotion from general_data
121  where YearsAtCompany in (select max(YearsAtCompany) from general_data
122  where YearsSinceLastPromotion=0) and YearsSinceLastPromotion=0;
123
```

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

EmployeeId	Employee_name	YearsAtCompany	YearsSinceLastPromotion
705	DENISE FLAHERTY	33	0
2175	HERMAN WOO	33	0
3645	YU-RUO WANG	33	0

Thank You

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