

INTERNSHIP

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SQL INTERNSHIP

HR DATA SQL ASSESSMENT

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

```
SELECT COUNT(EmpName) AS Total_number_Employees  
FROM general_data;
```

Results		Messages
Total_number_Employees		
1	4410	

2. List all unique job roles in the dataset.

```
SELECT DISTINCT JobRole  
FROM general_data;
```

Results		Messages
JobRole		
1	Sales Representative	
2	Manager	
3	Healthcare Representative	
4	Laboratory Technician	
5	Sales Executive	
6	Manufacturing Director	
7	Human Resources	
8	Research Director	
9	Research Scientist	

3. Find the average age of employees.

```
SELECT AVG(Age) AS Average_Age_Employees  
FROM general_data;
```

Results		Messages
Average_Age_Employees		
1	36.9238095238095	

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

```
SELECT EmpName, Age  
FROM general_data  
where YearsAtCompany>5;
```

Results Messages		
	EmpName	Age
1	RENEE MARQUARDT	38
2	HARVEY ELWIN	32
3	LEON WHITE	46
4	NATHAN HARDY	31
5	SUSAN BUCHBINDER	25
6	KIRSTEN BARASH	45
7	DENNIS SUTTER	36
8	JOHN BROWN	55
9	KATHRYN BALLOU	47
10	GRAD GREEN	35
11	DARCY KELLER	38
12	SAMUEL ROMERO	26
13	ALEXANDER CHEN	50
14	BURK DELVENTHAL	42
15	THOMAS HARVEY	29
16	MARTIN BELTRAN	55
17	ROBERT TAI	37
18	EUGENE GALEANO	36
19	BRIAN DELAHUNTY	26
20	JAMES VANNUCCHI	42

Query exec... LAPTOP-FDG43O42 (15.0 RTM) | LAPTOP-FDG43O42\Asus (56) | hr_database | 00:00:00 | 2,082 rows

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

```
SELECT COUNT(EmpName) AS Count_Employees, Department
from general_data
group by Department;
```

Results Messages		
	Count_Employees	Department
1	1338	Sales
2	2883	Research & Development
3	189	Human Resources

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

```
SELECT EmpName,
CASE WHEN JobSatisfaction is not null or JobSatisfaction = 4 THEN 'HIGH'
END as JobSatisfaction
from general_data gd left join employee_survey_data$ esd
on gd.EmployeeID=esd.EmployeeID
```

Results Messages		
	EmpName	JobSatisfaction
1	ALBERTO PEDRUCCO	HIGH
2	LAWRENCE LEE	HIGH
3	DWAYNE CURRY	HIGH
4	RENEE MARQUARDT	HIGH
5	HARVEY ELWIN	HIGH
6	LEON WHITE	HIGH
7	DENNIS HERRERA	HIGH
8	DONALD BRYANT	HIGH
9	NATHAN HARDY	HIGH
10	SUSAN BUCHBINDER	HIGH
11	KIRSTEN BARASH	HIGH
12	DENNIS SUTTER	HIGH
13	JOHN BROWN	HIGH
14	KATHRYN BALLOU	HIGH
15	DONALD FIELDS	HIGH
16	LUIS HERRERA	HIGH
17	GEORGE FOURAS	HIGH
18	MARTIN LALOR JR	HIGH
19	GRAD GREEN	HIGH
20	DARCY KELLER	HIGH

Query exec... LAPTOP-FDG43O42 (15.0 RTM) | LAPTOP-FDG43O42\Asus (56) | hr_database | 00:00:00 | 4,410 rows

7. Find the highest Monthly Income in the dataset.

```
SELECT MAX(MonthlyIncome) AS Highest_monthly_income FROM general_data;
```

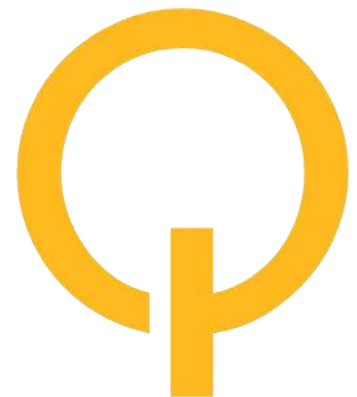
Results		Messages
Highest_monthly_income		
1	199990	

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

```
SELECT EmpName,BusinessTravel from general_data where BusinessTravel='Travel_Rarely';
```

Results		Messages
EmpName		BusinessTravel
1	ALBERTO PEDRUCO	Travel_Rarely
2	HARVEY ELWIN	Travel_Rarely
3	LEON WHITE	Travel_Rarely
4	DENNIS HERRERA	Travel_Rarely
5	DONALD BRYANT	Travel_Rarely
6	NATHAN HARDY	Travel_Rarely
7	KIRSTEN BARASH	Travel_Rarely
8	DENNIS SUTTER	Travel_Rarely
9	JOHN BROWN	Travel_Rarely
10	DONALD FIELDS	Travel_Rarely
11	LUIS HERRERA	Travel_Rarely
12	GEORGE FOURAS	Travel_Rarely
13	GRAD GREEN	Travel_Rarely
14	DARCY KELLER	Travel_Rarely
15	ALEXANDER CHEN	Travel_Rarely
16	OLLIE BANKS	Travel_Rarely
17	BURK DELVENTHAL	Travel_Rarely
18	MARTIN BELTRAN	Travel_Rarely
19	ROBERT TAI	Travel_Rarely
20	PIERRE FRANCOIS	Travel_Rarely

Query exec... | LAPTOP-FDG43O42 (15.0 RTM) | LAPTOP-FDG43O42\Asus (56) | hr_database | 00:00:00 | 3,129 rows



9. Retrieve the distinct MaritalStatus categories in the dataset.

```
SELECT DISTINCT MaritalStatus from general_data;
```

Results		Messages
MaritalStatus		
1	Single	
2	Divorced	
3	Married	

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

```
SELECT EmpName FROM general_data Where TotalWorkingYears>2 AND YearsAtCompany<4;
```

Results		Messages
	EmpName	
1	DENNIS HERRERA	
2	DONALD BRYANT	
3	GEORGE FOURAS	
4	CHRISTOPHER HAZEN	
5	PIERRE FRANCOIS	
6	ROSELYN JEQUINTO	
7	COLLEEN RILEY	
8	TIMOTHY SULLIVAN	
9	STEPHEN TACCHINI	
10	GREGORY MCFARLAND	
11	ANDREW LOGAN	
12	ARTHUR STELLINI	
13	MICHAEL SIMMONS	
14	DANIEL MAHONEY	
15	JOHN GOLDBERG	
16	CHRIS VEIN	
17	THOMAS CUNNANE	
18	PATRICIA O'CONNER	
19	EDMUND VAIL	
20	BONNIE TAYLOR	

Query exec... | LAPTOP-FDG43O42 (15.0 RTM) | LAPTOP-FDG43O42\Asus (56) | hr_database | 00:00:00 | 1,040 rows

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

```

;with CTE as (select EmpName, cast(JobLevel as varchar(100))+JobRole as UniqueID
from general_data)
,CTE_1 AS (select a.EmpName, count(distinct UniqueID) counts
from CTE a
group by a.EmpName
having Count(Distinct UniqueID)>1)
select distinct a.EmpName
from CTE_1 a
inner join general_data b on a.EmpName=b.EmpName
order by a.EmpName;

```

Results		Messages
	EmpName	
1	ALAN WONG	
2	ALBERT HOM	
3	ALLAN WONG	
4	ANA GONZALEZ	
5	ARTHUR WONG	
6	CLIFTON WONG	
7	DAVID JOHNSON	
8	DAVID THOMPSON	
9	DENIS BOUVIER	
10	FRANCIS VALLESTEROS	
11	FRANK LEE	
12	HENRY YEE	
13	JAMES JONES	
14	JAMES KELLY	
15	JAMES MILLER	
16	JOHN MURPHY	
17	JOSEPH TOOMEY	
18	KEVIN LYONS	
19	MARIA ANTONIO	
20	MARILA AQUINO	

Query execut... | LAPTOP-FDG43O42 (15.0 RTM) | LAPTOP-FDG43O42\Asus (56) | hr_database | 00:00:00 | 38 rows

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

```
SELECT Department, AVG(DistanceFromHome) AS AverageDistanceFromHome from general_data GROUP BY Department;
```

	Department	AverageDistanceFromHome
1	Sales	9.23094170403587
2	Research & Development	9.23621227887617
3	Human Resources	8.25396825396825

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

```
SELECT TOP 5 EmpName, MAX(MonthlyIncome) AS TOP_MONTHLY_INCOME FROM general_data GROUP BY EmpName ORDER BY MAX(MonthlyIncome) DESC;
```

	EmpName	TOP_MONTHLY_INCOME
1	DAVID KUCIA	199990
2	KEVIN LABANOWSKI	199990
3	LAWRENCE LAU	199990
4	KEVIN MCNAUGHTON	199730
5	NATHAN SZUTU	199730

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

```
SELECT sum(CASE WHEN YearsSinceLastPromotion > 0.00 THEN 1.00 ELSE 0.00 END ) AS promoted_count, COUNT(*) AS total_count, (sum(CASE WHEN YearsSinceLastPromotion > 0.00 THEN 1.00 ELSE 0.00 END) / COUNT(*)) * 100.00 AS promotion_percentage FROM general_data;
```

	promoted_count	total_count	promotion_percentage
1	2667.00	4410	60.476100

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

```
SELECT EmpName, CASE WHEN EnvironmentSatisfaction = 4 THEN 'HIGHEST' else 'LOWEST' END as EnvironmentSatisfaction FROM general_data gd Right join employee_survey_data$ esd on gd.EmployeeID=esd.EmployeeID;
```

	EmpName	EnvironmentSatisfaction
1	ALBERTO PEDRUCCO	LOWEST
2	LAWRENCE LEE	LOWEST
3	DWAYNE CURRY	LOWEST
4	RENEE MARQUARDT	HIGHEST
5	HARVEY ELWIN	HIGHEST
6	LEON WHITE	LOWEST
7	DENNIS HERRERA	LOWEST
8	DONALD BRYANT	LOWEST
9	NATHAN HARDY	LOWEST
10	SUSAN BUCHBINDER	LOWEST
11	KIRSTEN BARASH	LOWEST
12	DENNIS SUTTER	LOWEST
13	JOHN BROWN	HIGHEST
14	KATHRYN BALLOU	LOWEST
15	DONALD FIELDS	HIGHEST
16	LUIS HERRERA	LOWEST
17	GEORGE FOURAS	HIGHEST
18	MARTIN LALOR JR	LOWEST
19	GRAD GREEN	LOWEST
20	DARCY KELLER	LOWEST

Query exec... | LAPTOP-FD43042 (15.0 RTM) | LAPTOP-FD43042(Asus (56) | hr_database | 00:00:00 | 4,410 rows

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

```
SELECT EmpName, MAX(TotalWorkingYears) AS MAX_EORKING_DAYS, PerformanceRating=4
FROM general_data gd JOIN manager_survey_data$ msd on gd.EmployeeID=msd.EmployeeID
WHERE TotalWorkingYears = (SELECT MAX(TotalWorkingYears)
FROM general_data gd JOIN manager_survey_data$ msd on gd.EmployeeID=msd.EmployeeID
WHERE PerformanceRating = '4') group by EmpName;
```

	EmpName	MAX_EORKING_DAYS	PerformanceRating
1	ANGELO ANGELOPULOS	35	4
2	ELSA TSUTAOKA	35	4
3	EMILY MURASE	35	4
4	JOHN DOYLE	35	4
5	NICOL JURATOVAC	35	4
6	SHARON LEGENZA	35	4
7	STEVEN SETO	35	4
8	SUSAN REYNOLDS	35	4
9	SUZIE CHOW	35	4

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

```
SELECT BusinessTravel, AVG(Age) AS Average_Age, AVG(JobSatisfaction) AS Average_JobSatisfaction
from general_data gd join employee_survey_data$ esd
on gd.EmployeeID=esd.EmployeeID
GROUP BY BusinessTravel;
```

	BusinessTravel	Average_Age	Average_JobSatisfaction
1	Non-Travel	36.62	2.78794642857143
2	Travel_Rarely	37.0920421860019	2.70369181380417
3	Travel_Frequently	36.4548736462094	2.78839177750907

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

```
SELECT A.EmpName AS Employee1,
B.EmpName AS Employee2, A.JobRole, A.MaritalStatus
FROM general_data A JOIN general_data B
ON A.JobRole = B.JobRole
AND A.MaritalStatus = B.MaritalStatus
AND A.EmpName < B.EmpName;
```

	Employee1	Employee2	JobRole	MaritalStatus
1	CRISTINA REYES	REGINA GOMEZ	Healthcare Representative	Divorced
2	ANN MANNIX	REGINA GOMEZ	Healthcare Representative	Divorced
3	LINDA ROSS	REGINA GOMEZ	Healthcare Representative	Divorced
4	DANIEL ARMENTA	REGINA GOMEZ	Healthcare Representative	Divorced
5	MICHAEL DALY	REGINA GOMEZ	Healthcare Representative	Divorced
6	FUAD SWEISS	REGINA GOMEZ	Healthcare Representative	Divorced
7	MANUEL PEGUEROS	REGINA GOMEZ	Healthcare Representative	Divorced
8	ANDRE ANDREWS SR	REGINA GOMEZ	Healthcare Representative	Divorced
9	EDWARD CHEUNG	REGINA GOMEZ	Healthcare Representative	Divorced
10	FRANK KOSTA	REGINA GOMEZ	Healthcare Representative	Divorced
11	HUNG-MING CHU	REGINA GOMEZ	Healthcare Representative	Divorced
12	PETER ACTON	REGINA GOMEZ	Healthcare Representative	Divorced
13	PATRICK KWAN	REGINA GOMEZ	Healthcare Representative	Divorced
14	JAMES HUDSON	REGINA GOMEZ	Healthcare Representative	Divorced
15	RAYMOND QUESADA	REGINA GOMEZ	Healthcare Representative	Divorced
16	RAYMOND MACAULAY	REGINA GOMEZ	Healthcare Representative	Divorced
17	NIELS TANGHERLINI	REGINA GOMEZ	Healthcare Representative	Divorced
18	DANIEL WADE	REGINA GOMEZ	Healthcare Representative	Divorced
19	ALAN DE BELLA	REGINA GOMEZ	Healthcare Representative	Divorced
20	CHRISTOPHER DUNNE	REGINA GOMEZ	Healthcare Representative	Divorced

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19. Retrieve the most common EducationField among employees.

```
SELECT TOP 1  
EducationField,  
COUNT(*) AS NumberOfEmployees  
FROM general_data  
GROUP BY EducationField  
ORDER BY COUNT(*) DESC;
```

Results			Messages	
	EducationField	NumberOfEmployees		
1	Life Sciences	1818		

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

```
SELECT EmpName, MAX(YearsAtCompany) AS MAX_YEAR_AT_COMPANY  
from general_data  
WHERE YearsAtCompany=(SELECT MAX(YearsAtCompany)  
FROM general_data WHERE YearsSinceLastPromotion=0)  
GROUP BY EmpName;
```

Results			Messages	
	EmpName	MAX_YEAR_AT_COMPANY		
1	ANDREW MEEHAN	33		
2	ASIT PANWALA	33		
3	BRYAN HENDON	33		
4	DAVID BEAUPRE	33		
5	DENISE FLAHERTY	33		
6	FRANK GINES	33		
7	GERALD HESS	33		
8	HERMAN WOO	33		
9	HOUSHANG ESMAILI	33		
10	JOSEPH MCCLOSKEY	33		
11	LOUIS GALARCE	33		
12	NORMAN YUP	33		
13	ROLAND JONES	33		
14	ROLANDO ESCOBAR	33		
15	YU-RUO WANG	33		