Welcome to my HR Data Analysis project done as part of my Internship with PSYLIQ. This program helps unlock SQL's potential in understanding data.

HR Data Assesement

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

```
SELECT COUNT(DISTINCT EmployeeID) AS NumberOfEmployees
FROM General _Data;
```

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,Age
FROM General_Data
WHERE YearsAtCompany>5;
```

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

```
SELECT COUNT(EmployeeID) AS NumberofEmployees,Department
FROM General_Data
GROUP BY Department;
```

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

```
SELECT
        g.EmployeeID,
        g.Emp_Name,
        e.JobSatisfaction
FROM General_Data g,employee_survey_data e
WHERE JobSatisfaction >=3 AND e.EmployeeID=g.EmployeeID ;
```

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 BusinessTravel type.**

```
SELECT EmployeeID,Emp_Name
FROM General_Data
WHERE BusinessTravel = 'Travel_Rarely';
```

9. **Retrieve the distinct MaritalStatus categories in the dataset.**

```
SELECT DISTINCT MaritalStatus AS Marital_status_categories
FROM General_Data;
```

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
FROM General_Data
WHERE YearsAtCompany > 2 AND YearsAtCompany < 4;
```

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

```
SELECT
    EmployeeID,
    Emp_Name,
    Current_JobRole,
    Previous_JobRole,
    Current_JobLevel,
    Previous_JobLevel
FROM (
    SELECT
        EmployeeID,Emp_Name,
        JobRole AS Current_JobRole,
        JobLevel AS Current_JobLevel,
        LAG(JobRole) OVER(PARTITION BY EmployeeID ORDER BY
YearsAtCompany) AS Previous_JobRole,
        LAG(JobLevel) OVER(PARTITION BY EmployeeID ORDER BY
YearsAtCompany) AS Previous_JobLevel
    FROM General_Data
) AS JobChanges
WHERE (Current_JobRole <> Previous_JobRole)

      or (Current_JobLevel <> Previous_JobLevel);
```

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

```
SELECT
      Department,
      AVG(DistanceFromHome) AS Average_Distance_From_Home
FROM General_Data
GROUP BY Department;
```

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

```
SELECT TOP 5 EmployeeID,
        Emp_Name,
        MonthlyIncome
FROM General_Data
ORDER BY MonthlyIncome DESC;
```

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

```
WITH Promotion_data AS(
    SELECT
        COUNT(CASE
            WHEN YearsSinceLastPromotion <=1
            THEN 1
            END) AS EmployeesWithPromotionLastYear,
        COUNT(*) AS TotalEmployees
    FROM General_Data
)
SELECT
     EmployeesWithPromotionLastYear,TotalEmployees,
     (EmployeesWithPromotionLastYear*100/TotalEmployees) AS
    PercentagePromotedLastYear
FROM Promotion_data;
```

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

```
SELECT
    e.EmployeeID,
    g.Emp_Name,
    e.EnvironmentSatisfaction
FROM General_Data g
INNER JOIN employee_survey_data e
ON e.EmployeeID=g.EmployeeID
WHERE e.EnvironmentSatisfaction IN (
    SELECT MAX(EnvironmentSatisfaction)
    FROM employee_survey_data
    UNION
    SELECT MIN(EnvironmentSatisfaction)
    FROM employee_survey_data
);
```

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

```
SELECT
    EmployeeID,
    JobRole,
    MaritalStatus
FROM general_Data e1
WHERE EXISTS (
  SELECT 1
  FROM general_Data e2
  WHERE e1.EmployeeID <> e2.EmployeeID
  AND e1.JobRole = e2.JobRole
  AND e1.MaritalStatus = e2.MaritalStatus
);
```

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

```
SELECT
        g.EmployeeID,
        g.Emp_Name
FROM General_Data g, manager_survey_data m
WHERE m.EmployeeID=g.EmployeeID
          AND m.PerformanceRating = 4
          AND g.TotalWorkingYears = (
                                              SELECT MAX(TotalWorkingYears)
                                              FROM General_Data
                                              );
```

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

```
SELECT
        AVG(g.Age) AS Average_Age,
        AVG(e.JobSatisfaction) AS Average_JobSatisfaction,
        g.BusinessTravel
FROM General_Data g, employee_survey_data e
WHERE g.EmployeeID=e.EmployeeID
GROUP BY g.BusinessTravel;
```

19. Retrieve the most common EducationField among employees.

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

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

```
SELECT EmployeeID,Emp_Name,YearsAtCompany,YearsSinceLastPromotion
FROM General_Data
WHERE YearsSinceLastPromotion = 0
AND YearsAtCompany = (
SELECT MAX(YearsAtCompany)
FROM General_Data
);
```

Results From SQL Server

	NumberOfEmployees
1	4410

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

	Average_Age
1	36

	Emp_Name	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

	NumberofEmployees	Department
1	1338	Sales
2	2883	Research & Development
3	189	Human Resources

	EmployeeID	Emp_Name	JobSatisfaction
1	1	ALBERTO PEDRUCO	4
2	4	RENEE MARQUARDT	4
3	7	DENNIS HERRERA	3
4	9	NATHAN HARDY	4
5	11	KIRSTEN BARASH	4
6	12	DENNIS SUTTER	4
7	15	DONALD FIELDS	4
8	16	LUIS HERRERA	4

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	Highest_Monthly_Income
1	199990

	EmployeeID	Emp_Name
1	1	ALBERTO PEDRUCO
2	5	HARVEY ELWIN
3	6	LEON WHITE
4	7	DENNIS HERRERA
5	8	DONALD BRYANT
6	9	NATHAN HARDY
7	11	KIRSTEN BARASH
8	12	DENNIS SUTTER

	Marital_status_categories
1	Single
2	Divorced
3	Married

	EmployeeID	Emp_Name
1	17	GEORGE FOURAS
2	31	ROSELYN JEQUINTO
3	33	COLLEEN RILEY
4	66	ANDREW LOGAN
5	72	MICHAEL SIMMONS
6	80	JOHN GOLDBERG
7	93	PATRICIA O'CONNER
8	100	MITCHELL LEE

	EmployeeID	Emp_Name	Current_JobRole	Previous_JobRole	Current_JobLevel	Previous_JobLevel

	Department	Average_Distance_From_Home
1	Sales	9
2	Research & Development	9
3	Human Resources	8

	EmployeeID	Emp_Name	MonthlyIncome
1	386	KEVIN LABANOWSKI	199990
2	1856	DAVID KUCIA	199990
3	3326	LAWRENCE LAU	199990

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	EmployeesWithPromotionLastYear	TotalEmployees	PercentagePromotedLastYear
1	2814	4410	63

	EmployeeID	Emp_Name	EnvironmentSatisfaction
1	7	DENNIS HERRERA	1
2	8	DONALD BRYANT	1
3	12	DENNIS SUTTER	NA
4	14	KATHRYN BALLOU	1
5	18	MARTIN LALOR JR	1
6	20	DARCY KELLER	1
7	22	ALEXANDER CHEN	1
8	27	LORI BORGHI	1

	EmployeeID	JobRole	MaritalStatus
1	64	Healthcare Representative	Divorced
2	83	Healthcare Representative	Divorced
3	147	Healthcare Representative	Divorced
4	152	Healthcare Representative	Divorced
5	161	Healthcare Representative	Divorced
6	203	Healthcare Representative	Divorced
7	234	Healthcare Representative	Divorced
8	262	Healthcare Representative	Divorced

	EmployeeID	Emp_Name
1	1518	ANITA WOOD
2	3121	KEVIN JENSEN

	Average_Age	Average_JobSatisfaction	BusinessTravel
1	36	2	Non-Travel
2	37	2	Travel_Rarely
3	36	2	Travel_Frequ...

	EducationField	FieldCount
1	Life Sciences	1818

	EmployeeID	Emp_Name	YearsAtCompany	YearsSinceLastPromotion
1	48	MERCEDES GERMAN	9	0
2	73	RUBY MARTIN	9	0
3	273	ELAINE COLEMAN	9	0
4	336	JULIE VAN NOSTERN	9	0

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