TESTING TABLEAU/ POWER BI REPORTS IN SQL

Create Table

```
create table hrdata
(
        emp_no int8 PRIMARY KEY,
        gender varchar(50) NOT NULL,
        marital_status varchar(50),
        age_band varchar(50),
        age int8,
        department varchar(50),
        education varchar(50),
        education_field varchar(50),
        job_role varchar(50),
        business_travel varchar(50),
        employee_count int8,
        attrition varchar(50),
        attrition_label varchar(50),
        job_satisfaction int8,
        active_employee int8
)
```

Employee Count:

```
select sum(employee_count) as Employee_Count from hrdata;
```

	employee_count numeric
1	1470

Attrition Count:

```
select count(attrition) from hrdata where attrition='Yes';
```

	count bigint
1	237

Attrition Rate:

```
select
round (((select count(attrition) from hrdata where attrition='Yes')/
sum(employee_count)) * 100,2)
from hrdata;
```

	attrition_rate numeric
1	16.12

Active Employee:

select sum(employee_count) - (select count(attrition) from hrdata where attrition='Yes') from hrdata;

	active_employee numeric
1	1233

Average Age:

select round(avg(age),0) from hrdata;

	round numeric
1	37

Attrition by Gender

select gender, count(attrition) as attrition_count from hrdata
where attrition='Yes'
group by gender
order by count(attrition) desc;

	gender character varying (59)	attrition_count bigint
1	Male	150
2	Female	87

Department wise Attrition:

select department, count(attrition), round((cast (count(attrition) as numeric) /
(select count(attrition) from hrdata where attrition= 'Yes')) * 100, 2) as pct from hrdata
where attrition='Yes'
group by department
order by count(attrition) desc;

	department character varying (50)	count bigint	pct numeric
1	R&D	133	56.12
2	Sales	92	38.82
3	HR	12	5.06

No of Employee by Age Group

```
SELECT age,  sum(employee_count) AS employee_count FROM hrdata
GROUP BY age
order by age;
```

	age bigint	employee_count numeric
1	18	8
2	19	9
3	20	11
4	21	13
5	22	16
6	23	14
7	24	26

Education Field wise Attrition:

```
select education_field, count(attrition) as attrition_count from hrdata
where attrition='Yes'
group by education_field
order by count(attrition) desc;
```

	education_field character varying (50)	attrition_count bigint
1	Life Sciences	89
2	Medical	63
3	Marketing	35
4	Technical Degree	32
5	Other	11
6	Human Resources	7

Attrition Rate by Gender for different Age Group

```
select age_band, gender, count(attrition) as attrition,
round((cast(count(attrition) as numeric) / (select count(attrition) from hrdata where attrition = 'Yes'))
* 100,2) as pct
from  hrdata
where attrition = 'Yes'
group by age_band, gender
order by age_band, gender desc;
```

	age_band character varying (50)	gender character varying (59)	attrition bigint	pct numeric
1	25 - 34	Male	69	29.11
2	25 - 34	Female	43	18.14
3	35 - 44	Male	37	15.61
4	35 - 44	Female	14	5.91
5	45 - 54	Male	16	6.75
6	45 - 54	Female	9	3.80
7	Over 55	Male	8	3.38
8	Over 55	Female	3	1.27
9	Under 25	Male	20	8.44
10	Under 25	Female	18	7.59

Job Satisfaction Rating

-Run this query first to activate the cosstab() function in postgres
CREATE EXTENSION IF NOT EXISTS tablefunc;

-Then run this to get o/p-

```
SELECT *
FROM crosstab(
  'SELECT job_role, job_satisfaction, sum(employee_count)
   FROM hrdata
   GROUP BY job_role, job_satisfaction
   ORDER BY job_role, job_satisfaction'
          ) AS ct(job_role varchar(50), one numeric, two numeric, three numeric, four numeric)
ORDER BY job_role;
```

	job_role character varying (50)	one numeric	two numeric	three numeric	four numeric
1	Healthcare Representative	26	19	43	43
2	Human Resources	10	16	13	13
3	Laboratory Technician	56	48	75	80
4	Manager	21	21	27	33
5	Manufacturing Director	26	32	49	38
6	Research Director	15	16	27	22
7	Research Scientist	54	53	90	95
8	Sales Executive	69	54	91	112
9	Sales Representative	12	21	27	23