HR RESOURCES DOCUMENTATION With MySQL

Questions

1. *What is the gender breakdown of employees in the company?*

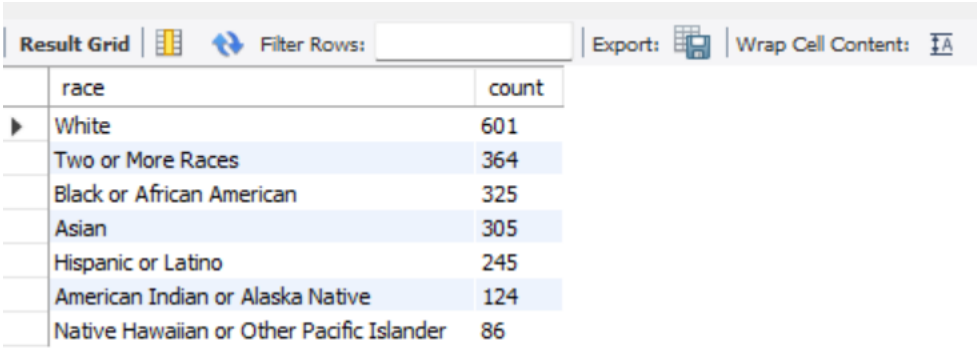
```
SELECT gender, COUNT(*) AS count FROM human_resources
WHERE age >= 18 AND termdate = '2000-01-01'
GROUP BY gender;
```

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

gender	count
Male	1053
Female	936
Non-Conforming	61

2. *What is the race/ethnicity breakdown of employees in the company?*

```
SELECT race, COUNT(*) AS count FROM human_resources
WHERE age >= 18
GROUP BY race
ORDER BY count DESC;
```



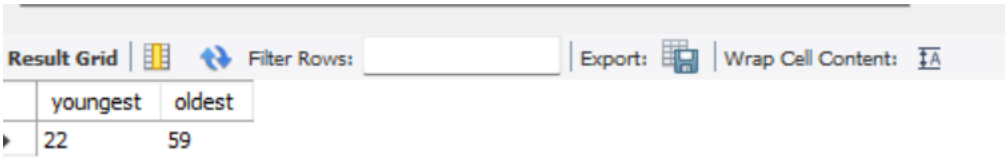
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

race	count
White	601
Two or More Races	364
Black or African American	325
Asian	305
Hispanic or Latino	245
American Indian or Alaska Native	124
Native Hawaiian or Other Pacific Islander	86

3.*What is the age distribution of employees in the company?*

```
SELECT MIN(age) AS youngest, MAX(age) AS oldest
FROM human_resources
```

WHERE age >= 18 and termdate = '2000-01-01';



youngest	oldest
22	59

*SELECT FLOOR(age/10)*10 AS age_group, COUNT(*) AS count*

FROM human_resources

WHERE age >= 18

*GROUP BY FLOOR(age/10)*10;*

SELECT

CASE

WHEN age >= 18 AND age <= 24 THEN '18-24'

WHEN age >= 25 AND age <= 34 THEN '25-34'

WHEN age >= 35 AND age <= 44 THEN '35-44'

WHEN age >= 45 AND age <= 54 THEN '45-54'

WHEN age >= 55 AND age <= 64 THEN '55-64'

ELSE '65+'

END AS age_group,

COUNT(*) AS count

FROM

human_resources

WHERE

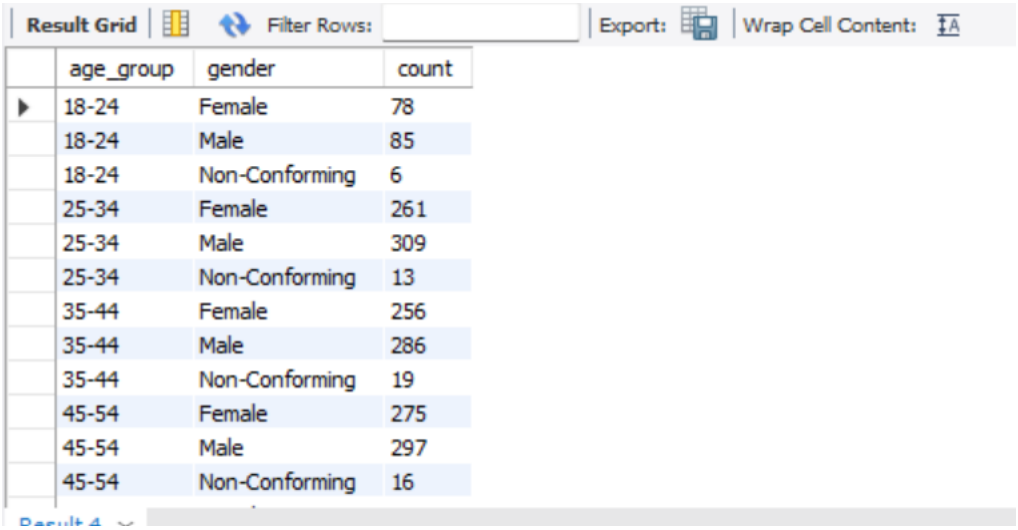
age >= 18 and termdate = '2000-01-01'

GROUP BY age_group

ORDER BY age_group;

SELECT

```
 CASE
   WHEN age >= 18 AND age <= 24 THEN '18-24'
   WHEN age >= 25 AND age <= 34 THEN '25-34'
   WHEN age >= 35 AND age <= 44 THEN '35-44'
   WHEN age >= 45 AND age <= 54 THEN '45-54'
   WHEN age >= 55 AND age <= 64 THEN '55-64'
   ELSE '65+'
 END AS age_group, gender,
 COUNT(*) AS count
FROM
 human_resources
WHERE
 age >= 18 and termdate = '2000-01-01'
GROUP BY age_group, gender
ORDER BY age_group, gender;
```



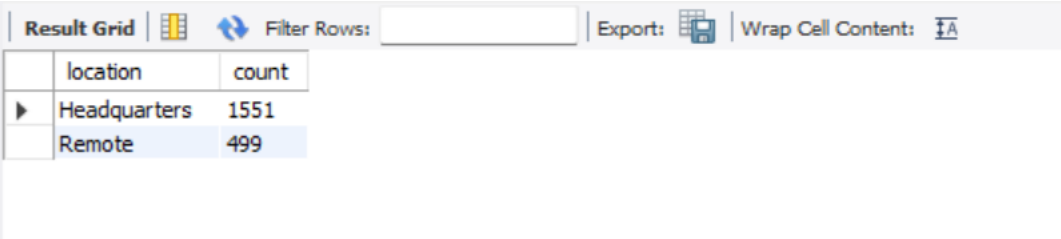
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

age_group	gender	count
18-24	Female	78
18-24	Male	85
18-24	Non-Conforming	6
25-34	Female	261
25-34	Male	309
25-34	Non-Conforming	13
35-44	Female	256
35-44	Male	286
35-44	Non-Conforming	19
45-54	Female	275
45-54	Male	297
45-54	Non-Conforming	16

4. *How many employees work at headquarters versus remote locations?*

```
SELECT location, COUNT(*) as count
FROM human_resources
WHERE age >= 18 and termdate = '2000-01-01'
```

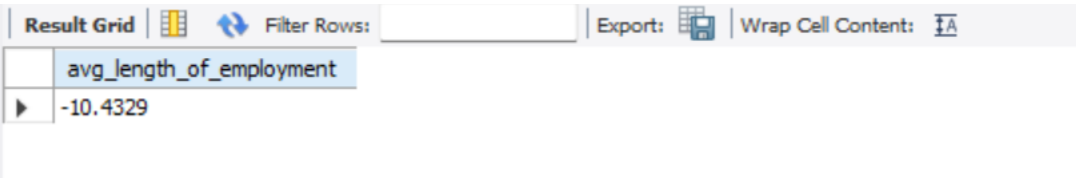
GROUP BY location;



location	count
Headquarters	1551
Remote	499

5. *What is the average length of employment for employees who have been terminated?*

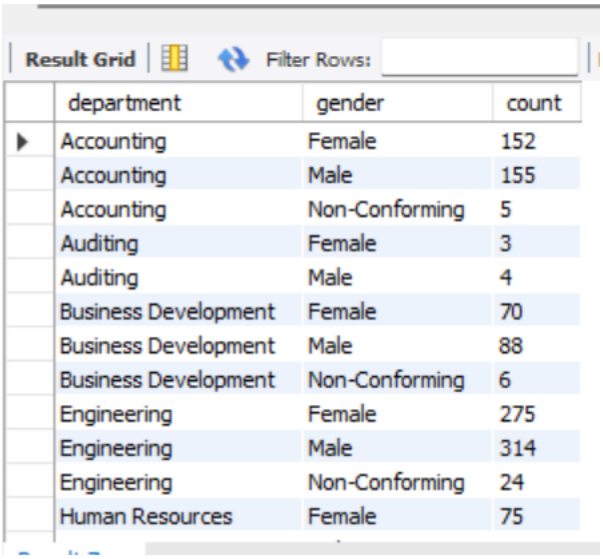
```
SELECT ROUND(AVG(DATEDIFF(termdate, hire_date)),0)/365 AS avg_length_of_employment
FROM human_resources
WHERE termdate <= CURDATE() AND age >= 18;
```



avg_length_of_employment
-10.4329

6. *How does the gender distribution vary across departments?*

```
SELECT department, gender, COUNT(*) as count
FROM human_resources
WHERE age >= 18 and termdate = '2000-01-01'
GROUP BY department, gender
ORDER BY department;
```

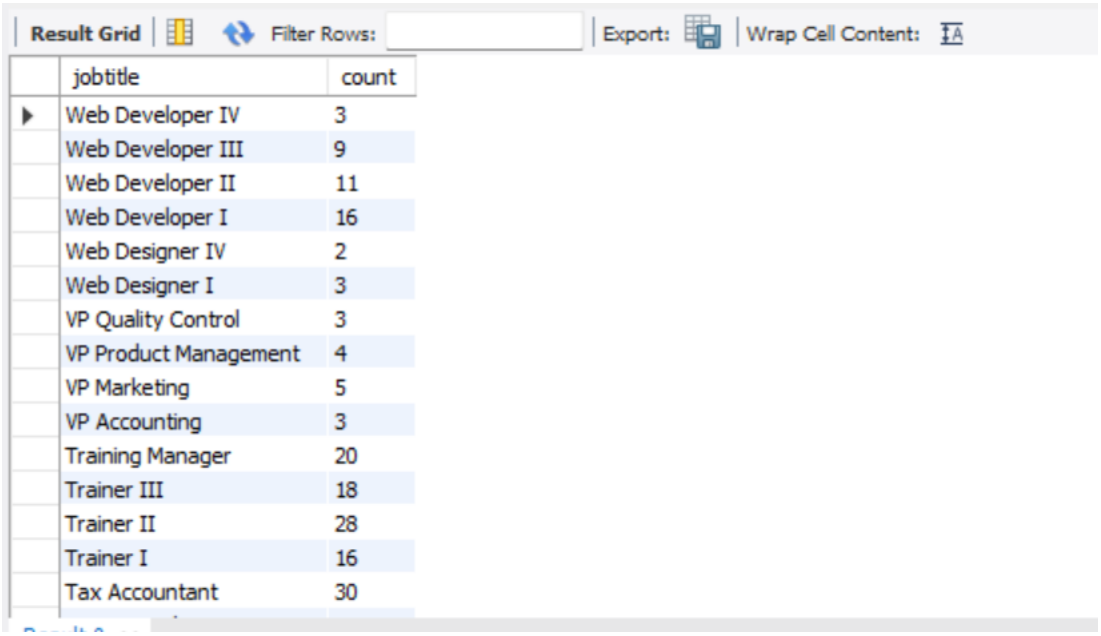


Result Grid | Filter Rows:

department	gender	count
Accounting	Female	152
Accounting	Male	155
Accounting	Non-Conforming	5
Auditing	Female	3
Auditing	Male	4
Business Development	Female	70
Business Development	Male	88
Business Development	Non-Conforming	6
Engineering	Female	275
Engineering	Male	314
Engineering	Non-Conforming	24
Human Resources	Female	75

7. *What is the distribution of job titles across the company?*

```
SELECT jobtitle, COUNT(*) as count

FROM human_resources

WHERE age >= 18 and termdate = '2000-01-01'

GROUP BY jobtitle

ORDER BY jobtitle DESC;
```



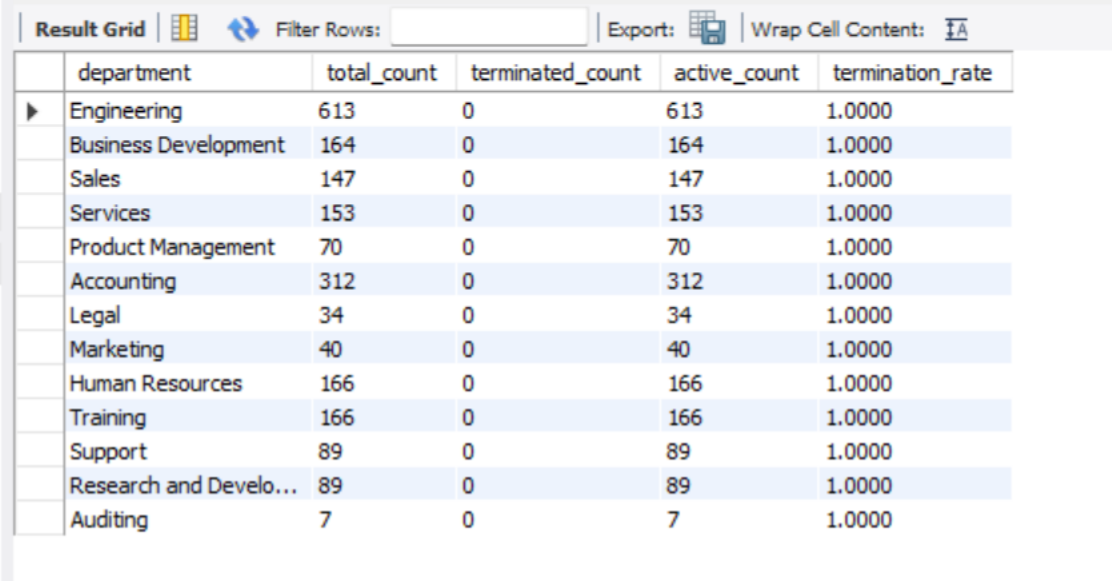
Result Grid | Filter Rows: | Export: | Wrap Cell Content:

jobtitle	count
Web Developer IV	3
Web Developer III	9
Web Developer II	11
Web Developer I	16
Web Designer IV	2
Web Designer I	3
VP Quality Control	3
VP Product Management	4
VP Marketing	5
VP Accounting	3
Training Manager	20
Trainer III	18
Trainer II	28
Trainer I	16
Tax Accountant	30

8. *Which department has the highest turnover rate?*

Turnover rate" typically refers to the rate at which employees leave a company or department and need to be replaced. It can be calculated as the number of employees who leave over a given time period divided by the average number of employees in the company or department over that same time period.

```
SELECT department, COUNT(*) as total_count,
    SUM(CASE WHEN termdate <= CURDATE() AND termdate <> '2000-01-01' THEN 1 ELSE 0 END) as
terminated_count,
    SUM(CASE WHEN termdate = '2000-01-01' THEN 1 ELSE 0 END) as active_count,
    (SUM(CASE WHEN termdate <= CURDATE() THEN 1 ELSE 0 END) / COUNT(*)) as termination_rate
FROM human_resources
WHERE age >= 18
GROUP BY department
ORDER BY termination_rate DESC;
```

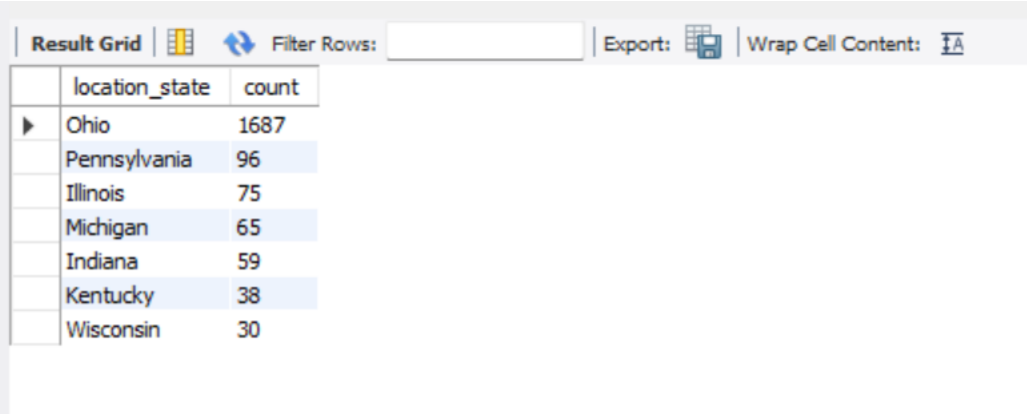


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

department	total_count	terminated_count	active_count	termination_rate
Engineering	613	0	613	1.0000
Business Development	164	0	164	1.0000
Sales	147	0	147	1.0000
Services	153	0	153	1.0000
Product Management	70	0	70	1.0000
Accounting	312	0	312	1.0000
Legal	34	0	34	1.0000
Marketing	40	0	40	1.0000
Human Resources	166	0	166	1.0000
Training	166	0	166	1.0000
Support	89	0	89	1.0000
Research and Develo...	89	0	89	1.0000
Auditing	7	0	7	1.0000

9. *What is the distribution of employees across locations by state?*

```
SELECT location_state, COUNT(*) as count
FROM human_resources
WHERE age >= 18 and termdate= '2000-01-01'
GROUP BY location_state
ORDER BY count DESC;
```



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

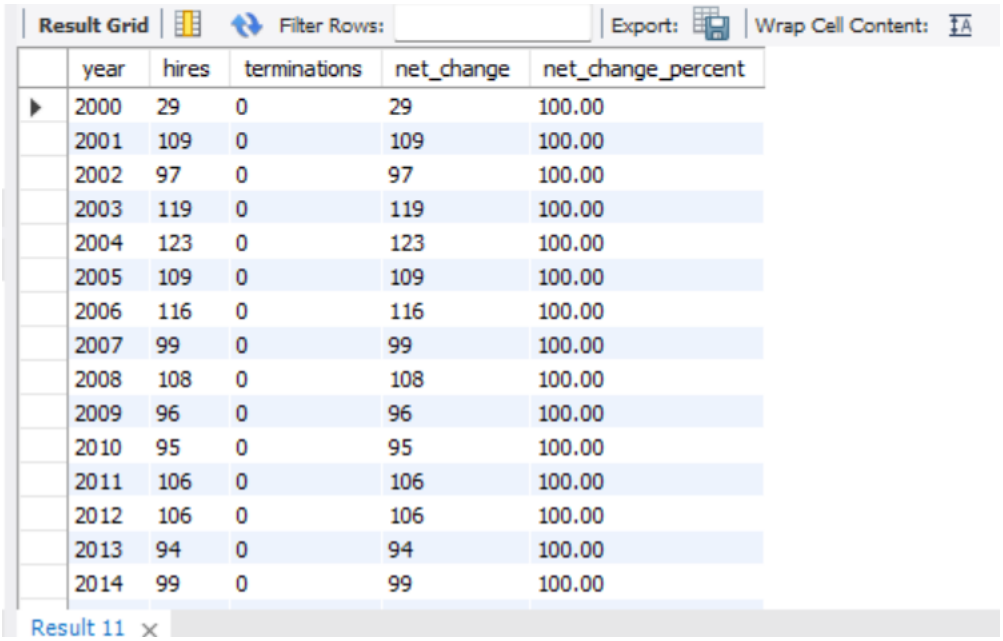
location_state	count
Ohio	1687
Pennsylvania	96
Illinois	75
Michigan	65
Indiana	59
Kentucky	38
Wisconsin	30

10. *How has the company's employee count changed over time based on hire and term dates?*

This query groups the employees by the year of their hire date and calculates the total number of hires, terminations, and net change (the difference between hires and terminations) for each year. The results are sorted by year in ascending order.

```
SELECT
    YEAR(hire_date) AS year,
    COUNT(*) AS hires,
    SUM(CASE WHEN termdate <> '2000-01-01' AND termdate <= CURDATE() THEN 1 ELSE 0 END) AS terminations,
    COUNT(*) - SUM(CASE WHEN termdate <> '2000-01-01' AND termdate <= CURDATE() THEN 1 ELSE 0 END) AS
net_change,
```

```
   ROUND(((COUNT(*) - SUM(CASE WHEN termdate <> '2000-01-01' AND termdate <= CURDATE() THEN 1 ELSE 0
END)) / COUNT(*) * 100),2) AS net_change_percent

FROM

   human_resources

WHERE age >= 18

GROUP BY

   YEAR(hire_date)

ORDER BY

   YEAR(hire_date) ASC;
```



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

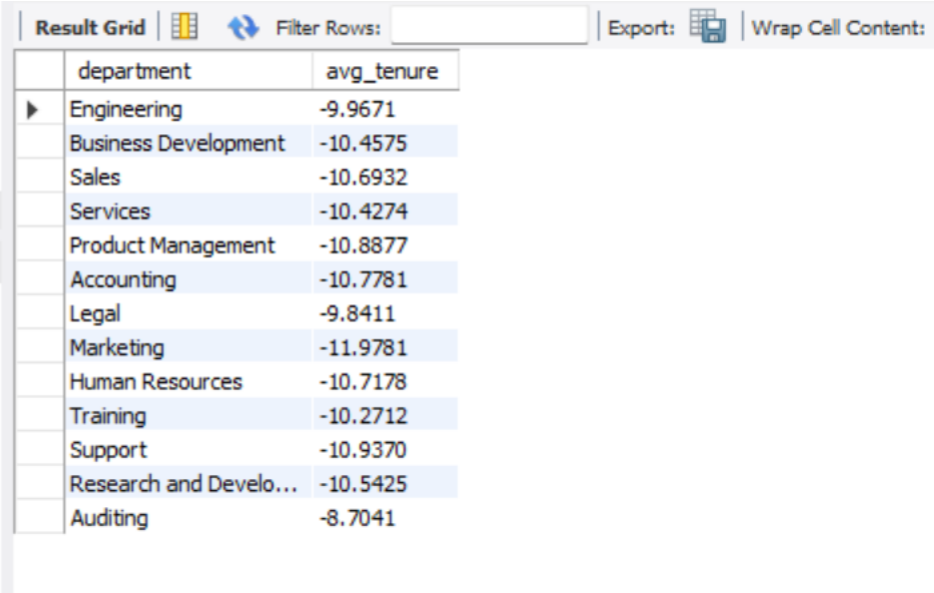
year	hires	terminations	net_change	net_change_percent
2000	29	0	29	100.00
2001	109	0	109	100.00
2002	97	0	97	100.00
2003	119	0	119	100.00
2004	123	0	123	100.00
2005	109	0	109	100.00
2006	116	0	116	100.00
2007	99	0	99	100.00
2008	108	0	108	100.00
2009	96	0	96	100.00
2010	95	0	95	100.00
2011	106	0	106	100.00
2012	106	0	106	100.00
2013	94	0	94	100.00
2014	99	0	99	100.00

Result 11

11. *What is the tenure distribution for each department? How long do employees work in each department before they leave or are made to leave?*

```
SELECT department, ROUND(AVG(DATEDIFF(termdate, hire_date)),0)/365 as avg_tenure

FROM human_resources

WHERE termdate <= CURDATE() AND age >= 18
```

GROUP BY department;



department	avg_tenure
Engineering	-9.9671
Business Development	-10.4575
Sales	-10.6932
Services	-10.4274
Product Management	-10.8877
Accounting	-10.7781
Legal	-9.8411
Marketing	-11.9781
Human Resources	-10.7178
Training	-10.2712
Support	-10.9370
Research and Develo...	-10.5425
Auditing	-8.7041

SUMMARY OF FINDINGS

- There are more male employees
- White race is the most dominant while Native Hawaiian and American Indian are the least dominant.
- The youngest employee is 22 years old and the oldest is 59 years old
- 5 age groups were created (18-24, 25-34, 35-44, 45-54, 55-64). A large number of employees were between 25-34 followed by 35-44 while the smallest group was 55-64.
- A large number of employees work at the headquarters versus remotely.
- The average length of employment for terminated employees is around 7 years.
- The gender distribution across departments is fairly balanced but there are generally more male than female employees.
- The Marketing department has the highest turnover rate followed by Training. The least turn over rate are in the Research and development, Support and Legal departments.
- A large number of employees come from the state of Ohio.
- The net change in employees has increased over the years.

- The average tenure for each department is about 8 years with Legal and Auditing having the highest and Services, Sales and Marketing having the lowest.

LIMITATIONS

- Some records had negative ages and these were excluded during querying(967 records). Ages used were 18 years and above.
- Some termdates were far into the future and were not included in the analysis(1599 records). The only term dates used were those less than or equal to the current date.