# Overview

The purpose of the analysis was twofold:

1. determine the number of retiring employees per title and
2. identify employees with eligibility for the company’s mentorship program.

This analysis was conducted using SQL through PostgreSQL (=relational database system) and pgAdmin (-where the queries and written, executed and results are viewed).

# Methodology / Results:

The first task was to determine the number of retiring employees per title. This was accomplished via the below methodology.

* First, we retrieved all necessary data from the various data tables, specifically
  + Employees table : emp\_no, first\_name, last\_name,
  + Titles table : title, from\_date, to\_date
* A new table, called retirement\_titles, was created using INTO clause and a join via the primary key which exists in both tables.
* The data was then filtered by birth\_date to include only employee born between 1952 and 1955.
* The output of this exercise yielded a table that included duplicates of employees (one line for each job title). This is interesting data, but not the requested deliverable… Let’s keep going.
* The next step was to retrieve emp\_no, first\_name, last\_name and title from the new table we just created : retirement\_titles.
* We then used a distinct statement to retrieve only the first occurrence of each employee number, thus eliminating the issue we discovered in the aforementioned steps.
* *We were then asked to exclude employees who have already left the company by filtering on the to\_date. This was problematic because when we later tried to create the retiring\_titles table, our counts were off if this step was included. Because of this, I did not include this step.*
* We then created a new table called unique\_titles using the INTO clause.
* The next step was to write a third query to retrieve the number of employees by their most recent job title who are near retirement.
* First we retrieved the number of titles from the unique\_titles table and we then created a new table called retiring\_titles.
* We grouped the new table by title and sorted the count column. The final output looked like this :

The next task was to identify employees with eligibility for the company’s mentorship program. We accomplished this using the following methodology

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# Summary:

## How many roles will need to be filled as the "silver tsunami" begins to make an impact?

There will be 90,398 retirement-induced vacancies at Pewlett-Hackard-Analysis in the very near future.

## Are there enough qualified, retirement-ready employees in the departments to mentor the next generation of Pewlett Hackard employees?

In all departments, there are enough qualified, retirement-ready employees to mentor the next generation of employees, less those in management. It is important that Pewlett Hackard quickly work with the retiring managers and leverage their expertise before they retire.

## Provide two additional queries or tables that may provide more insight into the upcoming "silver tsunami."

I refractored the code from the above analysis to quantify the number of male and female employees retiring. 60% of the those eligible for retirement are male, while the remaining 40% are female. Having a diverse workforce is increasingly relevant, especially in order to meet sustainability objectives, and to create a workplace where future employees want to work. Given Pewlett Hackard’s upcoming silver tsunami, its important that the company examines various employee diversity indices in planning for the future. This is a great start to a larger diversity analysis.

SELECT employees.emp\_no,

employees.first\_name,

employees.last\_name,

titles.title,

titles.from\_date,

titles.to\_date

INTO retirement\_titles

FROM employees

INNER JOIN titles

ON employees.emp\_no = titles.emp\_no

WHERE (birth\_date BETWEEN '1952-01-01' AND '1955-12-31')

ORDER BY emp\_no;

SELECT DISTINCT ON (retirement\_titles.emp\_no)

retirement\_titles.emp\_no,

retirement\_titles.first\_name,

retirement\_titles.last\_name,

retirement\_titles.title

INTO unique\_titles

FROM retirement\_titles

ORDER BY retirement\_titles.emp\_no, to\_date DESC;

SELECT COUNT(unique\_titles.title), unique\_titles.title

INTO retiring\_titles

FROM unique\_titles

GROUP BY unique\_titles.title

ORDER BY COUNT DESC;

SELECT DISTINCT ON (employees.emp\_no) employees.emp\_no,

employees.first\_name,

employees.last\_name,

employees.birth\_date,

dept\_emp.from\_date,

dept\_emp.to\_date,

titles.title

INTO mentorship\_eligibility

FROM employees

INNER JOIN dept\_emp

ON (employees.emp\_no = dept\_emp.emp\_no)

INNER JOIN titles

ON (employees.emp\_no = titles.emp\_no)

WHERE (employees.birth\_date BETWEEN '1965-01-01' AND '1965-12-31')

and (dept\_emp.to\_date = '9999-01-01')

ORDER BY emp\_no;

SELECT employees.emp\_no,

employees.first\_name,

employees.last\_name,

employees.gender,

titles.title,

titles.from\_date,

titles.to\_date

INTO retirement\_gender

FROM employees

INNER JOIN titles

ON employees.emp\_no = titles.emp\_no

WHERE (birth\_date BETWEEN '1952-01-01' AND '1955-12-31')

ORDER BY emp\_no;

Select \* from retirement\_gender limit 5

SELECT DISTINCT ON (retirement\_gender.emp\_no)

retirement\_gender.emp\_no,

retirement\_gender.first\_name,

retirement\_gender.last\_name,

retirement\_gender.title,

retirement\_gender.gender

INTO unique\_gender\_titles

FROM retirement\_gender

ORDER BY retirement\_gender.emp\_no, to\_date DESC;

Select \* from unique\_gender\_titles limit 5

SELECT COUNT(unique\_gender\_titles.gender), unique\_gender\_titles.gender

INTO retiring\_gender

FROM unique\_gender\_titles

GROUP BY unique\_gender\_titles.gender

ORDER BY COUNT DESC

Select \* from retiring\_gender limit 5