

## Overview:

Pewlett Hackard is a large company with several thousand employees. The company would like to determine the retirement criteria, number of retirees, and which positions need to be filled in the future.

## Purpose:-

To determine the number of retiring employees per title, and to identify employees who are eligible to participate in a mentorship program.

## Deliverable 1: The number of Retiring Employees by Title

**Results:-** the table below shows that all employees who were born between January 1, 1952 and December 31, 1955.

```
SELECT e.emp_no,  
       e.first_name,  
       e.last_name,  
       t.title,  
       t.from_date,  
       t.to_date  
INTO retirement_title  
FROM employees as e  
inner join titles as t  
on (e.emp_no = t.emp_no)  
WHERE (e.birth_date BETWEEN '1952-01-01' AND '1955-12-31')  
ORDER BY e.emp_no;
```

	123 emp_no	ABC first_name	ABC last_name	ABC title	from_date	to_date
1	10,001	Georgi	Facello	Senior Engineer	1986-06-26	9999-01-01
2	10,004	Chirstian	Koblick	Engineer	1986-12-01	1995-12-01
3	10,004	Chirstian	Koblick	Senior Engineer	1995-12-01	9999-01-01
4	10,005	Kyoichi	Maliniak	Senior Staff	1996-09-12	9999-01-01
5	10,005	Kyoichi	Maliniak	Staff	1989-09-12	1996-09-12
6	10,006	Anneke	Preusig	Senior Engineer	1990-08-05	9999-01-01
7	10,009	Sumant	Peac	Assistant Engineer	1985-02-18	1990-02-18
8	10,009	Sumant	Peac	Engineer	1990-02-18	1995-02-18
9	10,009	Sumant	Peac	Senior Engineer	1995-02-18	9999-01-01
10	10,011	Mary	Sluis	Staff	1990-01-22	1996-11-09

In the above table some employees had duplicate entities. We removed such duplicates using DISTINCT ON statement and created a Unique title. Finally, we sorted the table in ascending order by employee number and descending order by the last date of the most recent title.

```

SELECT DISTINCT ON (emp_no) emp_no,
       rt.first_name,
       rt.last_name,
       rt.title
INTO unique_titles
FROM retirement_title as rt
ORDER BY emp_no, to_date DESC;

```

	123 emp_no	ABC first_name	ABC last_name	ABC title
1	10,001	Georgi	Facello	Senior Engineer
2	10,004	Chirstian	Koblick	Senior Engineer
3	10,005	Kyoichi	Maliniak	Senior Staff
4	10,006	Anneke	Preusig	Senior Engineer
5	10,009	Sumant	Peac	Senior Engineer
6	10,011	Mary	Sluis	Staff
7	10,018	Kazuhide	Peha	Senior Engineer
8	10,019	Lillian	Haddadi	Staff
9	10,020	Mayuko	Warwick	Engineer
10	10,022	Shahaf	Famili	Engineer

Below is a retiring titles table shows the number of employees by their most recent job titles who are about to retire.

```

select count(ut.emp_no),
       ut.title
INTO retiring_titles
from unique_titles as ut
group by ut.title
order by count(ut.title) desc;

```

	123 count	ABC title
1	29,414	Senior Engineer
2	28,254	Senior Staff
3	14,222	Engineer
4	12,243	Staff
5	4,502	Technique Leader
6	1,761	Assistant Engineer
7	2	Manager

## Deliverable 2: The Employees Eligible for the Mentorship Program

**Results:-** the other analysis was a mentorship-eligibility table that holds the current employees who were born between January 1, 1965 and December 31, 1965.

```
SELECT DISTINCT ON (e.emp_no) e.emp_no,  
    e.first_name,  
    e.last_name,  
    e.birth_date,  
    de.from_date,  
    de.to_date,  
    t.title  
INTO mentorship_eligibility  
from employees as e  
inner join dept_emp as de  
on (e.emp_no = de.emp_no)  
inner join titles as t  
on (e.emp_no = t.emp_no)  
where (de.to_date = '9999-01-01')  
    and (e.birth_date BETWEEN '1965-01-01' AND '1965-12-31')  
ORDER BY e.emp_no;
```

	123 emp_no	ABC first_name	ABC last_name	birth_date	from_date	to_date	ABC title
1	10,095	Hilari	Morton	1965-01-03	1994-03-10	9999-01-01	Staff
2	10,122	Ohad	Esposito	1965-01-19	1998-08-06	9999-01-01	Technique Leader
3	10,291	Dipayan	Seghrouchni	1965-01-23	1987-03-30	9999-01-01	Senior Staff
4	10,476	Kokou	Iisaka	1965-01-01	1987-09-20	9999-01-01	Senior Staff
5	10,663	Teunis	Noriega	1965-01-09	1999-02-12	9999-01-01	Technique Leader
6	10,762	Lech	Himler	1965-01-19	1992-01-21	9999-01-01	Senior Staff
7	10,933	Juyoung	Seghrouchni	1965-01-24	1993-08-02	9999-01-01	Senior Engineer
8	12,155	Keiichiro	Glinert	1965-01-21	1993-09-16	9999-01-01	Engineer
9	12,408	Rasiah	Sudkamp	1965-01-10	1995-04-18	9999-01-01	Senior Engineer
10	12,643	Morrie	Schurmann	1965-01-30	1998-12-31	9999-01-01	Staff

### Summary:

- A total of 90,398 positions will need to be filled as the silver tsunami begins to make an impact.
- The total number of mentorship-eligibility is 1549. The company has 300,024 employees of which 31.1% are going to be retiring. The Number of Retiring by department table shows (refer to the table below) that Development section has the highest retirees (23,008) followed by Production section (20,163). Taking these data into consideration the company will face a shortage of qualified mentors. Similarly, from the above retiring table, two managers are about to retire. However, the number of eligible mentors by their most recent job titles (refer to the table below) shows that there is no manager listed as mentorship eligibility thus the company will face a shortage of mentors in the management position as well.

**Table 1.** Number of employees eligible for mentorship by title

```
SELECT COUNT(me.emp_no),
       me.title
FROM mentorship_eligibility as me
GROUP BY me.title
order by count(me.title) desc;
```

	count	title
1	440	Senior Staff
2	403	Engineer
3	287	Senior Engineer
4	284	Staff
5	77	Technique Leader
6	58	Assistant Engineer

**Table 2.** Number of retiring employees by department

```
select distinct on(de.emp_no) emp_no,
                      de. dept_no,
                      de.to_date
```

```
INTO recent_dept
from dept_emp as de
order by de.emp_no asc, to_date DESC;
```

```
select ut.emp_no,
       ut.title,
       rd.dept_no,
       rd.to_date,
       d.dept_name
INTO dept_order
from unique_titles as ut
left join recent_dept as rd
on ut.emp_no = rd.emp_no
left join departments as d
on rd.dept_no = d.dept_no;
```

```
select count(do2.emp_no),
       do2.dept_name
from dept_order as do2
group by dept_name
order by count desc;
```

	count	dept_name
1	23,008	Development
2	20,163	Production
3	14,083	Sales
4	6,577	Customer Service
5	5,847	Research
6	5,592	Quality Management
7	5,495	Marketing
8	4,921	Human Resources
9	4,712	Finance