



# Universidad Autónoma de Chihuahua

Facultad de Ingeniería

Asignatura: Fundamentos de bases de datos

Clave: CI675

Grupo: 6CC2

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*Act. 6 SQL JOIN II*

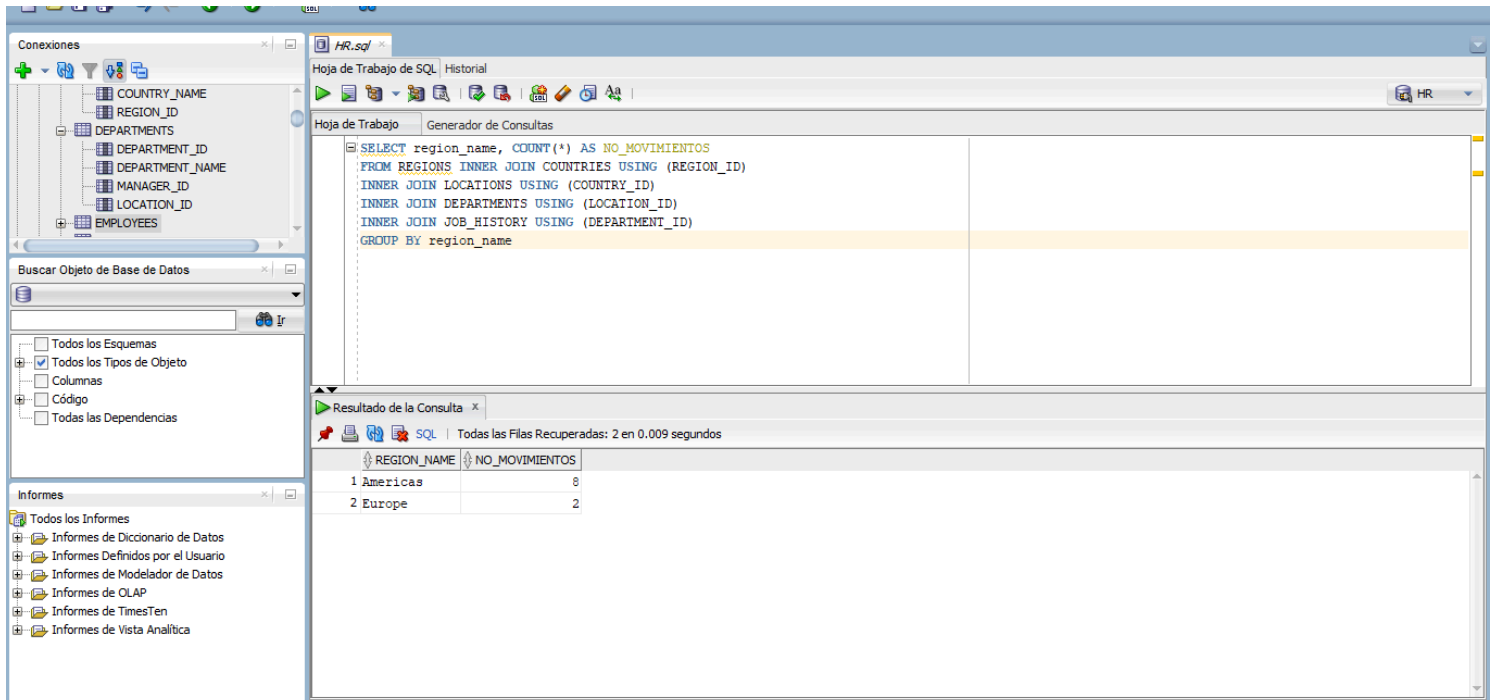
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Matricula: 358909

Fecha de entrega: lunes 16 de septiembre de 2024

Realizar un documento formal en formato PDF con la respuesta a los requerimientos(Se deberá incluir la redacción del problema, la consulta de SQL y el resultado para cada consulta de la actividad)

1. Obtener el no. de movimientos de personal por región(region\_name, no. movimientos) – cambio de puesto o departamento-



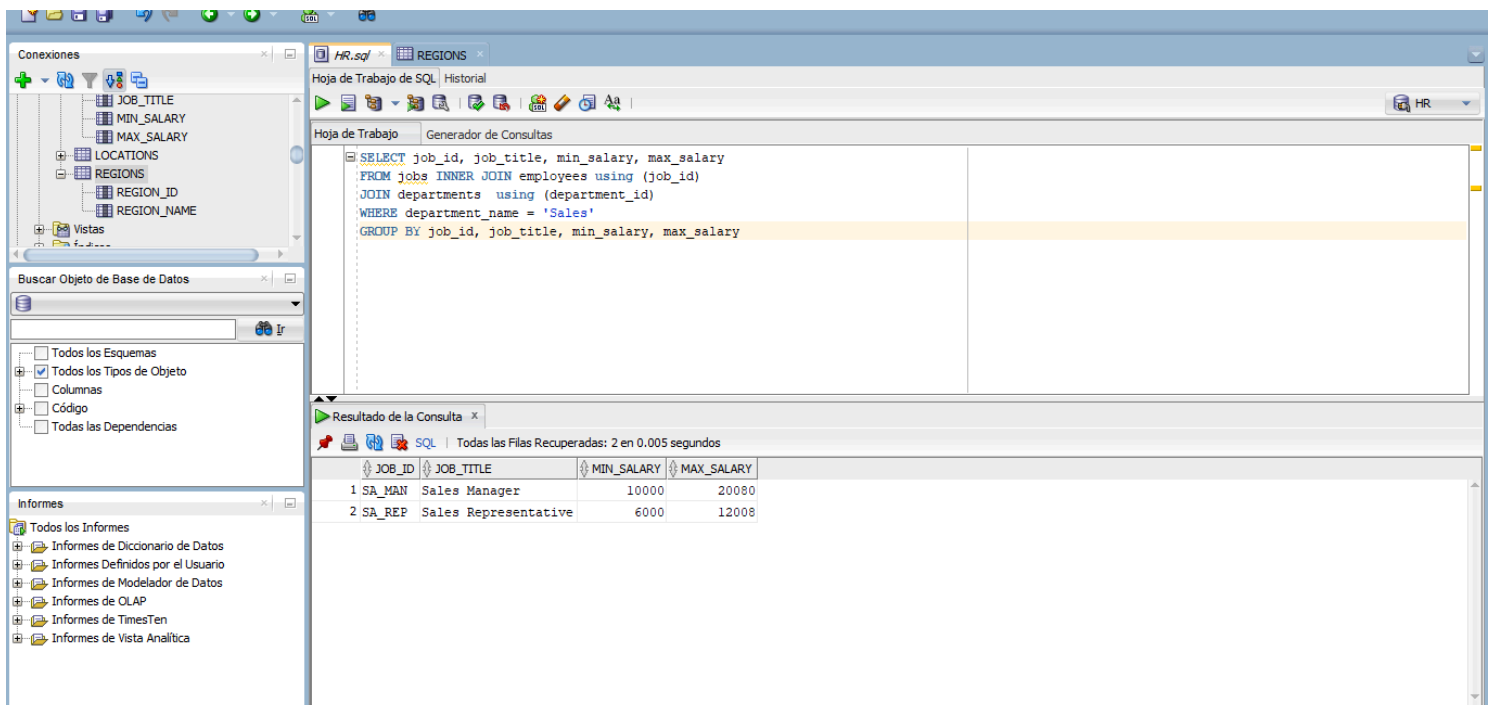
The screenshot shows the SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like COUNTRY\_NAME, REGION\_ID, DEPARTMENTS, and EMPLOYEES. The 'Buscar Objeto de Base de Datos' pane is active, showing search criteria. The main window displays a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT region_name, COUNT(*) AS NO_MOVIMIENTOS
FROM REGIONS INNER JOIN COUNTRIES USING (REGION_ID)
INNER JOIN LOCATIONS USING (COUNTRY_ID)
INNER JOIN DEPARTMENTS USING (LOCATION_ID)
INNER JOIN JOB_HISTORY USING (DEPARTMENT_ID)
GROUP BY region_name
```

The 'Resultado de la Consulta' pane shows the results of the query:

REGION_NAME	NO_MOVIMIENTOS
1 Americas	8
2 Europe	2

2. Obtener del departamento 'Sales', el job\_id, job\_title , el salario mínimo y máximo de los puestos de dicho departamento



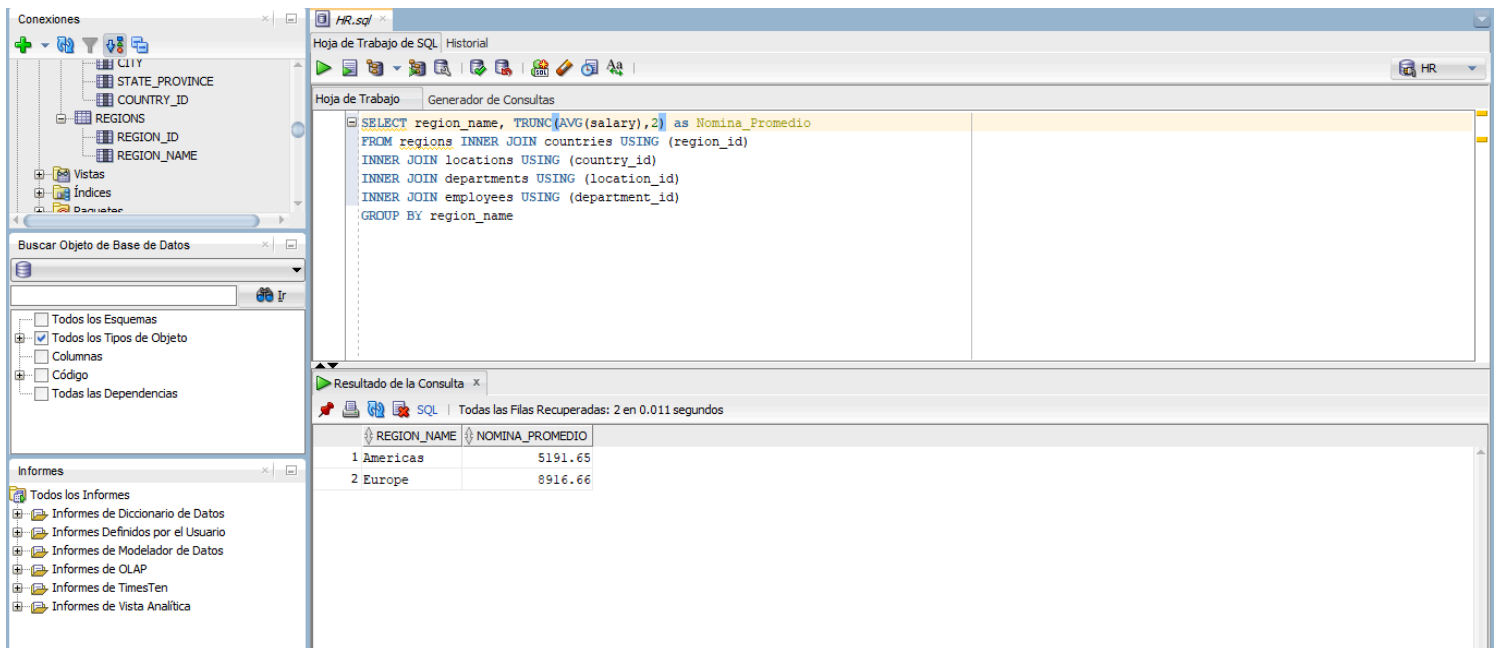
The screenshot shows the SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like JOB\_TITLE, MIN\_SALARY, MAX\_SALARY, LOCATIONS, and REGIONS. The 'Buscar Objeto de Base de Datos' pane is active, showing search criteria. The main window displays a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT job_id, job_title, min_salary, max_salary
FROM jobs INNER JOIN employees using (job_id)
JOIN departments using (department_id)
WHERE department_name = 'Sales'
GROUP BY job_id, job_title, min_salary, max_salary
```

The 'Resultado de la Consulta' pane shows the results of the query:

JOB_ID	JOB_TITLE	MIN_SALARY	MAX_SALARY
1 SA_MAN	Sales Manager	10000	20080
2 SA_REP	Sales Representative	6000	12008

### 3. Obtener de cada región la nómina promedio(region\_name, nomina\_promedio)



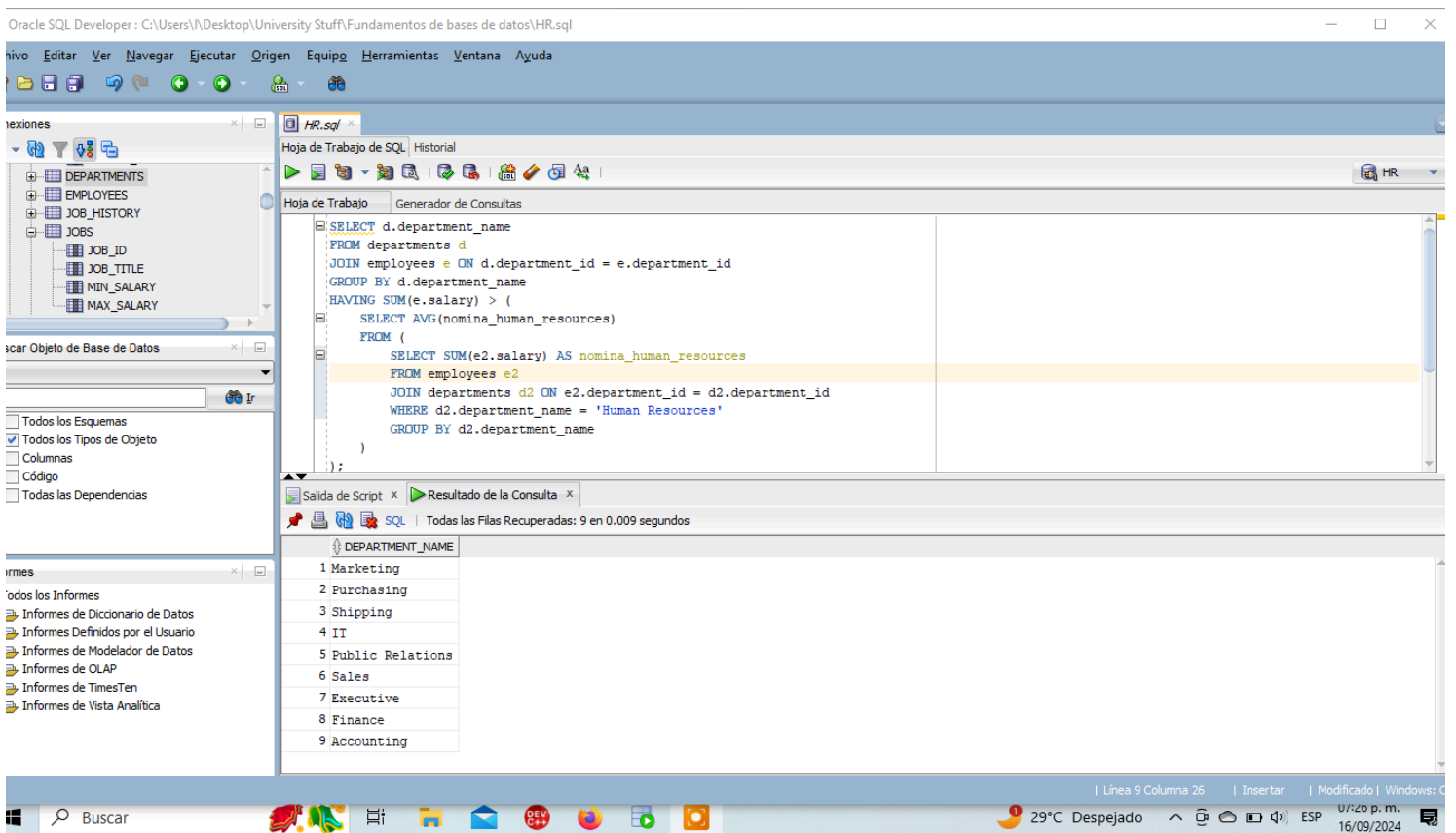
The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like STATE\_PROVINCE, COUNTRY\_ID, REGIONS, REGION\_ID, and REGION\_NAME. The 'Buscar Objeto de Base de Datos' pane is also visible. The main window shows a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT region_name, TRUNC(AVG(salary),2) as Nomina_Promedio
FROM regions INNER JOIN countries USING (region_id)
INNER JOIN locations USING (country_id)
INNER JOIN departments USING (location_id)
INNER JOIN employees USING (department_id)
GROUP BY region_name
```

The 'Resultado de la Consulta' pane shows the results of the query:

REGION_NAME	NOMINA_PROMEDIO
1 Americas	5191.65
2 Europe	8916.66

### 4. Obtener el department\_name de los departamentos que tienen una nómina mayor que el promedio de la nómina del departamento de 'Human Resources'



The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like DEPARTMENTS, EMPLOYEES, JOB\_HISTORY, JOBS, JOB\_ID, JOB\_TITLE, MIN\_SALARY, and MAX\_SALARY. The 'Buscar Objeto de Base de Datos' pane is also visible. The main window shows a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT d.department_name
FROM departments d
JOIN employees e ON d.department_id = e.department_id
GROUP BY d.department_name
HAVING SUM(e.salary) > (
    SELECT AVG(nomina_human_resources)
    FROM (
        SELECT SUM(e2.salary) AS nomina_human_resources
        FROM employees e2
        JOIN departments d2 ON e2.department_id = d2.department_id
        WHERE d2.department_name = 'Human Resources'
        GROUP BY d2.department_name
    )
);
```

The 'Resultado de la Consulta' pane shows the results of the query:

DEPARTMENT_NAME
1 Marketing
2 Purchasing
3 Shipping
4 IT
5 Public Relations
6 Sales
7 Executive
8 Finance
9 Accounting

5. Obtener el department\_id, department\_name, no. de empleados , nómina total, nómina promedio, salario mayor y menor para cada departamento

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane shows the 'HR' schema with tables like DEPARTMENTS, EMPLOYEES, and JOBS. The 'Buscar Objeto de Base de Datos' pane is also visible. The main window displays a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT department_id, department_name, COUNT(employee_id) AS NO_EMPLEADOS,
SUM(salary) AS Nomima, TRUNC(AVG(salary),2) AS Nomina_Promedio, MAX(salary) AS Salario_Mayor,
Min(salary) AS Salario_Menor
From employees INNER JOIN departments USING (department_id)
GROUP BY department_id, department_name
```

The 'Resultado de la Consulta' pane shows the results of the query, with 11 rows recovered in 0.226 seconds. The results are as follows:

DEPARTMENT_ID	DEPARTMENT_NAME	NO_EMPLEADOS	NOMIMA	NOMINA_PROMEDIO	SALARIO_MAYOR	SALARIO_MENOR
1	10 Administration	1	4400	4400	4400	4400
2	20 Marketing	2	19000	9500	13000	6000
3	30 Purchasing	6	24900	4150	11000	2500
4	40 Human Resources	1	6500	6500	6500	6500
5	50 Shipping	45	156400	3475.55	8200	2100
6	60 IT	5	28800	5760	9000	4200
7	70 Public Relations	1	10000	10000	10000	10000
8	80 Sales	34	304500	8955.88	14000	6100

6. Obtener el department\_name de los departamentos donde el salario mayor y menor son iguales

The screenshot shows the Oracle SQL Developer interface. The 'Conexiones' pane shows the 'HR' schema. The main window displays a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT department_name
FROM employees INNER JOIN departments USING (department_id)
GROUP BY department_name
HAVING MAX(salary) = MIN(salary)
```

The 'Resultado de la Consulta' pane shows the results of the query, with 3 rows recovered in 0.011 seconds. The results are as follows:

DEPARTMENT_NAME
1 Administration
2 Human Resources
3 Public Relations

7. Obtener por rango de salario de los diferentes puestos de la tablas de Jobs, el no. de empleados (min\_salary, max\_salary, no. de empleados)

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane shows the 'HR' schema with tables like START\_DATE, END\_DATE, JOB\_ID, DEPARTMENT\_ID, JOBS, JOB\_TITLE, MIN\_SALARY, and MAX\_SALARY. The 'Hoja de Trabajo de SQL' pane contains the following query:

```
SELECT min_salary, max_salary, COUNT(employee_id) AS No_empleados
FROM JOBS INNER JOIN EMPLOYEES USING (JOB_ID)
GROUP BY min_salary, max_salary
```

The 'Resultado de la Consulta' pane shows the results of the query:

	MIN_SALARY	MAX_SALARY	NO_EMPLEADOS
1	20080	40000	1
2	15000	30000	2
3	3000	6000	1
4	8200	16000	2
5	4200	9000	6
6	10000	20080	5
7	6000	12008	30
8	8000	15000	1
9	2500	5500	25

8. Obtener el región\_name de las regiones donde existe el puesto 'Programmer'

The screenshot shows the Oracle SQL Developer interface. The 'Hoja de Trabajo de SQL' pane contains the following query:

```
SELECT DISTINCT region_name -- No repeticiones
FROM regions INNER JOIN countries USING (region_id)
INNER JOIN locations USING (country_id)
INNER JOIN departments USING (location_id)
INNER JOIN employees USING (department_id)
INNER JOIN jobs USING (job_id)
WHERE job_title= 'Programmer'
```

The 'Resultado de la Consulta' pane shows the results of the query:

REGION_NAME
1 Americas

## 9. Obtener las regiones con más de 40 empleados en su nómina (region\_name, no. empleados)

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like START\_DATE, END\_DATE, DEPARTMENT\_ID, JOBS, JOB\_ID, JOB\_TITLE, MIN\_SALARY, and MAX\_SALARY. The 'Buscar Objeto de Base de Datos' pane is also visible. The main window shows a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT region_name, COUNT(employee_id) AS NO_Empleados
FROM regions INNER JOIN countries USING (region_id)
INNER JOIN locations USING (country_id)
INNER JOIN departments USING (location_id)
INNER JOIN employees USING (department_id)
GROUP BY region_name
HAVING COUNT(employee_id)>40
```

The 'Resultado de la Consulta' pane shows the results of the query:

REGION_NAME	NO_EMPLEADOS
1 Americas	70

## 10. Obtener los empleados que son subordinados directos del jefe del departamento donde laboran (department\_name, nombre\_jefe, nombre\_subordinado)

The screenshot shows the Oracle SQL Developer interface. On the left, the 'Conexiones' pane displays a tree view of the database schema, including tables like REGION\_ID, DEPARTMENTS, DEPARTMENT\_ID, DEPARTMENT\_NAME, MANAGER\_ID, LOCATION\_ID, EMPLOYEES, and JOB\_HISTORY. The 'Buscar Objeto de Base de Datos' pane is also visible. The main window shows a SQL query in the 'Hoja de Trabajo' pane:

```
SELECT d.department_name,
m.first_name || ' ' || m.last_name AS nombre_jefe,
e.first_name || ' ' || e.last_name AS nombre_subordinado
FROM employees e
JOIN employees m
USING (manager_id)
JOIN departments d
ON e.department_id = d.department_id
ORDER BY d.department_name;
```

The 'Resultado de la Consulta' pane shows the results of the query:

DEPARTMENT_NAME	NOMBRE_JEFE	NOMBRE_SUBORDINADO
1 Accounting	Hermann Baer	Shelley Higgins
2 Accounting	Susan Mavris	Shelley Higgins
3 Accounting	William Gietz	William Gietz
4 Accounting	Shelley Higgins	Shelley Higgins
5 Accounting	Nancy Greenberg	Shelley Higgins
6 Accounting	Jennifer Whalen	Shelley Higgins
7 Administration	Jennifer Whalen	Jennifer Whalen
8 Administration	Susan Mavris	Jennifer Whalen
9 Administration	Nancy Greenberg	Jennifer Whalen
10 Administration	Hermann Baer	Jennifer Whalen