

# Actividad 14

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# Tipos de Operadores

# Operadores Lógicos

Dan un resultado guiándose si se cumpla o no una condición.

## Ejemplo:

El operador lógico “**and**” para que este operador lógico de un resultado se ocupa que la condición anterior se cumpla o de lo contrario no dará nada como resultado.

## Tipos de operadores lógicos

AND

OR

NOT

# Operadores relacionales

Son símbolos que se usan para comparar dos valores.

## Ejemplo:

El operador relacional “>” este operador relacional compara dos valores, si el valor de la derecha es mayor que el de la izquierda entonces regresa el valor “True” dando a entender que la condición “>” si se dio.

## Tipos de operadores relacionales

Igual a (==)

No igual a (!=)

Mayor que (>)

Menor que (<)

Mayor o igual que (>=)

Menor o igual que (<=)

# Operadores matemáticos

Ejecutan las operaciones matemáticas básicas como la suma, resta, multiplicación y generar resultados numéricos.

## Ejemplo:

El operador matemático “+” este operador matemático se utiliza para sumar dos números.

### Tipos de operadores matemáticos

Suma (+)

Resta (-)

Multiplicación (\*)

División (/)

# Funciones básicas

# Funciones agregadas SQL

Devuelven un solo valor, calculando los valores de una columna.

Ejemplo:

La función “**AVG**” calcula el promedio de valores de una columna esta función suele ser usada para el promedio de un salón.

Tipos de funciones agregadas

SUM

AVG

COUNT

MAX

MIN

# Funciones escalares SQL

Devuelven un valor basándose en el valor que es introducido.

Ejemplo:

Función “**UCASE**” convierte un valor recibido a mayúsculas como por ejemplo: “hola” después del “**UCASE**” queda como ”HOLA”

Tipos de funciones escalares

UCASE

LCASE

MID

LEN

NOW

FORMAT



# Agrupación de datos

# Group by

Se utiliza para agrupar a los registros que tienen los mismos valores

Ejemplo:

Cuando quieres que se muestre los registros de los actores agrupados por las películas en las que trabajan.

# Having

Nos permite filtrar la consulta por valores obtenidos en las funciones agregadas, es parecido al “Where”

## Ejemplo:

Es un complemento para el “group by” como por ejemplo que se muestren los registros de la tabla de películas agrupados por su lenguaje pero excluyendo que tienen 7 o menos.

# Actividad 12.2

- Calcularemos el porcentaje de comisión del mes de mayo del empleado con id=2 aplicando un 10% al monto de las rentas

SELECT a.staff\_id,a.first\_name,a.last\_name,b.amount\*0.10 as comision FROM staff a, payment b WHERE b.staff\_id=a.staff\_id and a.staff\_id=2 and month(b.payment\_date)=5

```
1 • select a.staff_id,a.first_name,a.last_name,b.amount*0.10 as comision
2   from staff a, payment b
3   where b.staff_id=a.staff_id and a.staff_id=2 and month(b.payment_date)=5
```

|   | staff_id | first_name | last_name | comision |
|---|----------|------------|-----------|----------|
| ▶ | 2        | Jon        | Stephens  | 0.4990   |
|   | 2        | Jon        | Stephens  | 0.0990   |
|   | 2        | Jon        | Stephens  | 0.5990   |
|   | 2        | Jon        | Stephens  | 0.0990   |
|   | 2        | Jon        | Stephens  | 0.2990   |
|   | 2        | Jon        | Stephens  | 0.6990   |
|   | 2        | Jon        | Stephens  | 0.4990   |
|   | 2        | Jon        | Stephens  | 0.0990   |
|   | 2        | Jon        | Stephens  | 0.4990   |
|   | 2        | Jon        | Stephens  | 0.4990   |
|   | 2        | Jon        | Stephens  | 0.0990   |
|   | 2        | Jon        | Stephens  | 0.0990   |
|   | 2        | Jon        | Stephens  | 0.2990   |
|   | 2        | Jon        | Stephens  | 0.4990   |

- Calcularemos el porcentaje de comisión del mes de Junio del empleado con id=1 aplicando un 10% al monto de las rentas

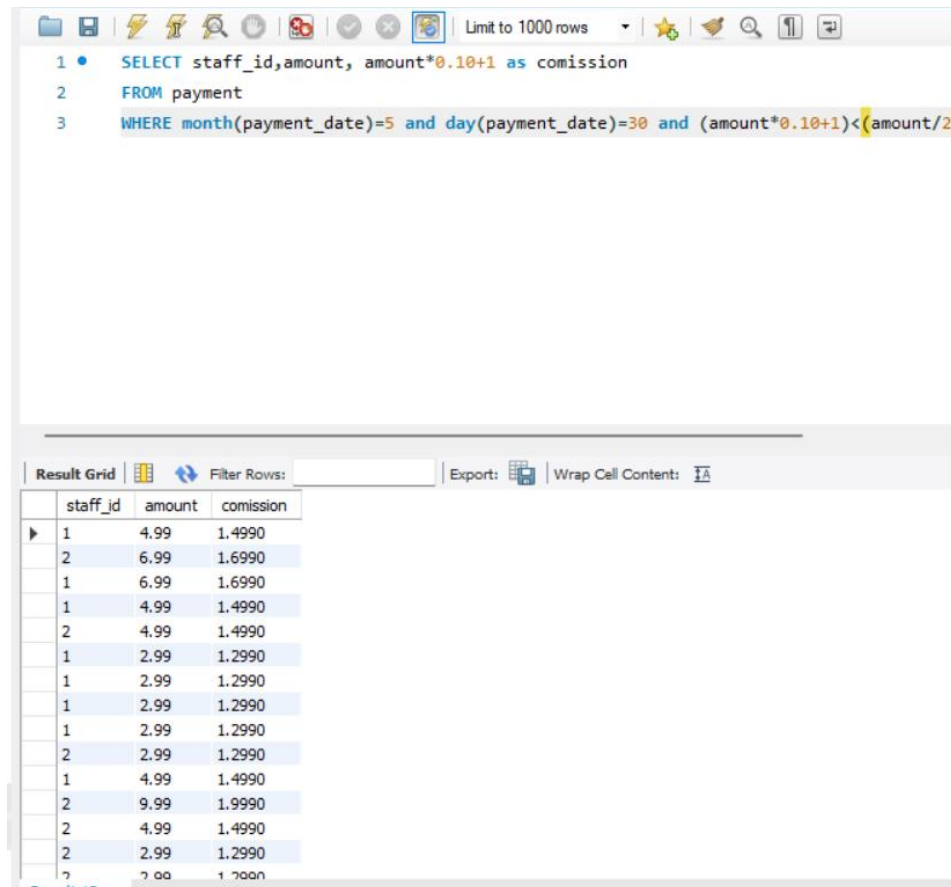
SELECT a.staff\_id,a.first\_name,a.last\_name,b.amount\*0.10 as comision FROM staff a, payment b WHERE b.staff\_id=a.staff\_id and a.staff\_id=1 and month(b.payment\_date)=6

```
1 • SELECT a.staff_id,a.first_name,a.last_name,b.amount*0.10 as comision
2 FROM staff a, payment b
3 WHERE b.staff_id=a.staff_id and a.staff_id=1 and month(b.payment_date)=6
```

| Result Grid | Filter Rows: | Export:   | Wrap Cell Content: |
|-------------|--------------|-----------|--------------------|
| staff_id    | first_name   | last_name | comision           |
| 1           | Mike         | Hillyer   | 0.5990             |
| 1           | Mike         | Hillyer   | 0.4990             |
| 1           | Mike         | Hillyer   | 0.8990             |
| 1           | Mike         | Hillyer   | 0.6990             |
| 1           | Mike         | Hillyer   | 0.4990             |
| 1           | Mike         | Hillyer   | 0.0990             |
| 1           | Mike         | Hillyer   | 0.3990             |
| 1           | Mike         | Hillyer   | 0.3990             |
| 1           | Mike         | Hillyer   | 0.0990             |
| 1           | Mike         | Hillyer   | 0.4990             |
| 1           | Mike         | Hillyer   | 0.4990             |
| 1           | Mike         | Hillyer   | 0.6990             |
| 1           | Mike         | Hillyer   | 0.7990             |
| 1           | Mike         | Hillyer   | 0.2990             |
| 1           | Mike         | Hillyer   | 0.7990             |

- El día 30 de mayo se agrega 1 dólar a la comisión de todos los empleados (que es del 10% del monto de la renta) muestre el listado de las rentas del día calculando la comisión de forma que la comisión no sea mayor al 50% del monto de la renta

SELECT staff\_id,amount, amount\*0.10+1 as comission FROM payment WHERE month(payment\_date)=5 and day(payment\_date)=30 and (amount\*0.10+1)<(amount/2)



The screenshot shows a SQL query editor with the following query:

```
1 • SELECT staff_id,amount, amount*0.10+1 as comission
2 FROM payment
3 WHERE month(payment_date)=5 and day(payment_date)=30 and (amount*0.10+1)<(amount/2)
```

Below the query editor is the 'Result Grid' showing the results of the query. The grid has three columns: staff\_id, amount, and comission. The results are as follows:

| staff_id | amount | comission |
|----------|--------|-----------|
| 1        | 4.99   | 1.4990    |
| 2        | 6.99   | 1.6990    |
| 1        | 6.99   | 1.6990    |
| 1        | 4.99   | 1.4990    |
| 2        | 4.99   | 1.4990    |
| 1        | 2.99   | 1.2990    |
| 1        | 2.99   | 1.2990    |
| 1        | 2.99   | 1.2990    |
| 1        | 2.99   | 1.2990    |
| 2        | 2.99   | 1.2990    |
| 1        | 4.99   | 1.4990    |
| 2        | 9.99   | 1.9990    |
| 2        | 4.99   | 1.4990    |
| 2        | 2.99   | 1.2990    |
| 2        | 2.99   | 1.2990    |

- A todos los clientes que rentaron los días 30 o 31 de cada mes se les da un descuento del 20% sobre el monto de la renta , liste los id de los clientes, el folio de la renta, el monto, el descuento y el nuevo valor a pagar

SELECT b.customer\_id,b.first\_name,b.last\_name,a.rental\_id,a.amount,a.amount \* 0.20 as discount,a.amount - (amount \* 0.20) as pay FROM payment a, customer b WHERE b.customer\_id=a.customer\_id and day(a.payment\_date) in (30, 31)

```
1 • SELECT b.customer_id,b.first_name,b.last_name,a.rental_id,a.amount,a.amount * 0.20 as discount,a.amount - (amount * 0.20) as pay
2 FROM payment a, customer b
3 WHERE b.customer_id=a.customer_id and day(a.payment_date) in (30, 31)
```

|   | customer_id | first_name | last_name | rental_id | amount | discount | pay    |
|---|-------------|------------|-----------|-----------|--------|----------|--------|
| ▶ | 5           | ELIZABETH  | BROWN     | 1085      | 6.99   | 1.3980   | 5.5920 |
|   | 5           | ELIZABETH  | BROWN     | 1142      | 1.99   | 0.3980   | 1.5920 |
|   | 6           | JENNIFER   | DAVIS     | 916       | 0.99   | 0.1980   | 0.7920 |
|   | 7           | MARIA      | MILLER    | 975       | 4.99   | 0.9980   | 3.9920 |
|   | 7           | MARIA      | MILLER    | 1063      | 5.99   | 1.1980   | 4.7920 |
|   | 8           | SUSAN      | WILSON    | 866       | 6.99   | 1.3980   | 5.5920 |
|   | 9           | MARGARET   | MOORE     | 877       | 0.99   | 0.1980   | 0.7920 |
|   | 9           | MARGARET   | MOORE     | 1075      | 4.99   | 0.9980   | 3.9920 |
|   | 10          | DOROTHY    | TAYLOR    | 1140      | 4.99   | 0.9980   | 3.9920 |
|   | 11          | LISA       | ANDERSON  | 987       | 6.99   | 1.3980   | 5.5920 |
|   | 12          | NANCY      | THOMAS    | 988       | 4.99   | 0.9980   | 3.9920 |
|   | 12          | NANCY      | THOMAS    | 1084      | 4.99   | 0.9980   | 3.9920 |
|   | 16          | SANDRA     | MARTIN    | 887       | 0.99   | 0.1980   | 0.7920 |
|   | 16          | SANDRA     | MARTIN    | 1017      | 2.99   | 0.5980   | 2.3920 |
|   | 17          | DOMINICA   | THOMPSON  | 884       | 4.99   | 0.9980   | 3.9920 |

- A todos los clientes que rentan los lunes se les otorga un día mas para regresarla , liste los id de los clientes, el folio de la renta, la fecha de pago y la fecha de entrega 3 días después del pago

```
SELECT b.customer_id,b.first_name,b.last_name,a.rental_id,a.amount,a.payment_date,date(a.payment_date + interval 3 day) as return_date FROM payment a, customer b WHERE b.customer_id=a.customer_id and dayname(a.payment_date) = 'Monday'
```

1 • 

```
SELECT b.customer_id,b.first_name,b.last_name,a.rental_id,a.amount,a.payment_date,date(a.payment_date + interval 3 day) as return_date
FROM payment a, customer b
WHERE b.customer_id=a.customer_id and dayname(a.payment_date) = 'Monday'
```

4

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

|   | customer_id | first_name | last_name | rental_id | amount | payment_date        | return_date |
|---|-------------|------------|-----------|-----------|--------|---------------------|-------------|
| ▶ | 6           | JENNIFER   | DAVIS     | 916       | 0.99   | 2005-05-30 11:25:01 | 2005-06-02  |
|   | 7           | MARIA      | MILLER    | 975       | 4.99   | 2005-05-30 21:07:15 | 2005-06-02  |
|   | 8           | SUSAN      | WILSON    | 866       | 6.99   | 2005-05-30 03:43:54 | 2005-06-02  |
|   | 9           | MARGARET   | MOORE     | 877       | 0.99   | 2005-05-30 05:48:59 | 2005-06-02  |
|   | 11          | LISA       | ANDERSON  | 987       | 6.99   | 2005-05-30 22:59:12 | 2005-06-02  |
|   | 12          | NANCY      | THOMAS    | 988       | 4.99   | 2005-05-30 23:08:03 | 2005-06-02  |
|   | 16          | SANDRA     | MARTIN    | 887       | 0.99   | 2005-05-30 07:10:00 | 2005-06-02  |
|   | 17          | DONNA      | THOMPSON  | 884       | 4.99   | 2005-05-30 06:41:32 | 2005-06-02  |
|   | 28          | CYNTHIA    | YOUNG     | 868       | 2.99   | 2005-05-30 04:19:55 | 2005-06-02  |
|   | 37          | PAMELA     | BAKER     | 923       | 2.99   | 2005-05-30 11:58:50 | 2005-06-02  |
|   | 44          | MARIE      | TURNER    | 904       | 2.99   | 2005-05-30 10:19:42 | 2005-06-02  |
|   | 46          | CATHERINE  | CAMPBELL  | 938       | 2.99   | 2005-05-30 14:47:31 | 2005-06-02  |
|   | 49          | JOYCE      | EDWARDS   | 846       | 2.99   | 2005-05-30 01:17:45 | 2005-06-02  |
|   | 50          | DIANE      | COLLINS   | 905       | 4.99   | 2005-05-30 10:25:00 | 2005-06-02  |
|   | 53          | ILLIE      | SANCHEZ   | 874       | 0.99   | 2005-05-30 05:36:21 | 2005-06-02  |



- En la tabla de rentas calcular para cada ID los días transcurridos entre la fecha de regreso y la fecha de la renta

```
SELECT rental_id,rental_date,return_date,datediff(return_date,rental_date) as daysFROM rental
```

```
1 • SELECT rental_id,rental_date,return_date,datediff(return_date,rental_date) as days
2 FROM rental
3
```

| Result Grid  |           |                     |                     |             |
|--------------|-----------|---------------------|---------------------|-------------|
| Filter Rows: |           | Export:             | Wrap Cell Content:  | Fetch rows: |
|              | rental_id | rental_date         | return_date         | days        |
| ▶            | 1         | 2005-05-24 22:53:30 | 2005-05-26 22:04:30 | 2           |
|              | 2         | 2005-05-24 22:54:33 | 2005-05-28 19:40:33 | 4           |
|              | 3         | 2005-05-24 23:03:39 | 2005-06-01 22:12:39 | 8           |
|              | 4         | 2005-05-24 23:04:41 | 2005-06-03 01:43:41 | 10          |
|              | 5         | 2005-05-24 23:05:21 | 2005-06-02 04:33:21 | 9           |
|              | 6         | 2005-05-24 23:08:07 | 2005-05-27 01:32:07 | 3           |
|              | 7         | 2005-05-24 23:11:53 | 2005-05-29 20:34:53 | 5           |
|              | 8         | 2005-05-24 23:31:46 | 2005-05-27 23:33:46 | 3           |
|              | 9         | 2005-05-25 00:00:40 | 2005-05-28 00:22:40 | 3           |
|              | 10        | 2005-05-25 00:02:21 | 2005-05-31 22:44:21 | 6           |
|              | 11        | 2005-05-25 00:09:02 | 2005-06-02 20:56:02 | 8           |
|              | 12        | 2005-05-25 00:19:27 | 2005-05-30 05:44:27 | 5           |
|              | 13        | 2005-05-25 00:22:55 | 2005-05-30 04:28:55 | 5           |
|              | 14        | 2005-05-25 00:31:15 | 2005-05-26 02:56:15 | 1           |
|              | 15        | 2005-05-25 00:30:22 | 2005-06-03 03:30:22 | 9           |

- Lista el id de la renta, el id del cliente y la fecha de renta de todas las rentas de los días domingo

SELECT a.rental\_id,b.customer\_id,b.first\_name,b.last\_name,a.rental\_date,a.return\_date FROM rental a, customer b  
WHERE b.customer\_id=a.customer\_id and dayname(rental\_date)="SUNDAY"

```
1 • SELECT a.rental_id,b.customer_id,b.first_name,b.last_name,a.rental_date,a.return_date
2 FROM rental a, customer b
3 WHERE b.customer_id=a.customer_id and dayname(rental_date)="SUNDAY"
4
```

|   | rental_id | customer_id | first_name | last_name | rental_date         | return_date         |
|---|-----------|-------------|------------|-----------|---------------------|---------------------|
|   | 782       | 596         | ENRIQUE    | FORSYTHE  | 2005-05-29 14:38:57 | 2005-06-02 13:18:57 |
|   | 790       | 593         | RENE       | MCALISTER | 2005-05-29 16:19:29 | 2005-06-02 17:22:29 |
| ▶ | 737       | 589         | TRACY      | HERRMANN  | 2005-05-29 08:11:31 | 2005-06-04 11:18:31 |
|   | 755       | 576         | MORRIS     | MCCARTER  | 2005-05-29 10:26:29 | 2005-06-01 10:25:29 |
|   | 769       | 575         | ISAAC      | OGLESBY   | 2005-05-29 12:51:44 | 2005-06-01 17:43:44 |
|   | 774       | 575         | ISAAC      | OGLESBY   | 2005-05-29 13:19:43 | 2005-06-01 18:51:43 |
|   | 827       | 573         | BYRON      | BOX       | 2005-05-29 21:58:43 | 2005-06-06 00:54:43 |
|   | 689       | 571         | JOHNNIE    | CHISHOLM  | 2005-05-29 00:46:53 | 2005-06-03 23:48:53 |
|   | 768       | 566         | CASEY      | MENA      | 2005-05-29 12:30:46 | 2005-06-07 09:00:46 |
|   | 758       | 563         | KEN        | PREWITT   | 2005-05-29 10:31:56 | 2005-06-01 14:53:56 |
|   | 773       | 563         | KEN        | PREWITT   | 2005-05-29 13:18:05 | 2005-06-07 17:22:05 |
|   | 788       | 562         | WALLACE    | SLONE     | 2005-05-29 16:13:55 | 2005-05-31 16:40:55 |
|   | 772       | 556         | ARMANDO    | GRUBER    | 2005-05-29 13:08:06 | 2005-06-06 08:19:06 |
|   | 817       | 554         | DWAYNE     | OLVERA    | 2005-05-29 20:39:14 | 2005-05-31 18:24:14 |
|   | 780       | 553         | MAY        | OTT       | 2005-05-29 16:17:07 | 2005-06-06 18:15:07 |

- Lista el id de la renta, el id del cliente y la fecha de renta de todas las rentas de los días domingo del mes de mayo
- `SELECT a.rental_id,b.customer_id,b.first_name,b.last_name,a.rental_date FROM rental a, customer b WHERE b.customer_id=a.customer_id and month(rental_date)=5 and dayname(rental_date)="SUNDAY"`

```
1 • SELECT a.rental_id,b.customer_id,b.first_name,b.last_name,a.rental_date
2 FROM rental a, customer b
3 WHERE b.customer_id=a.customer_id and month(rental_date)=5 and dayname(rental_date)="SUNDAY"
4
```

| Result Grid |           |              |            |                    |                     |
|-------------|-----------|--------------|------------|--------------------|---------------------|
|             |           | Filter Rows: | Export:    | Wrap Cell Content: |                     |
|             | rental_id | customer_id  | first_name | last_name          | rental_date         |
| ▶           | 830       | 3            | LINDA      | WILLIAMS           | 2005-05-29 22:43:55 |
|             | 731       | 5            | ELIZABETH  | BROWN              | 2005-05-29 07:25:16 |
|             | 748       | 7            | MARIA      | MILLER             | 2005-05-29 09:27:00 |
|             | 815       | 14           | BETTY      | WHITE              | 2005-05-29 20:24:28 |
|             | 692       | 18           | CAROL      | GARCIA             | 2005-05-29 01:32:10 |
|             | 696       | 19           | RUTH       | MARTINEZ           | 2005-05-29 01:59:10 |
|             | 820       | 22           | LAURA      | RODRIGUEZ          | 2005-05-29 21:07:22 |
|             | 796       | 26           | JESSICA    | HALL               | 2005-05-29 16:59:44 |
|             | 787       | 27           | SHIRLEY    | ALLEN              | 2005-05-29 16:03:03 |
|             | 803       | 32           | AMY        | LOPEZ              | 2005-05-29 17:52:30 |
|             | 716       | 36           | KATHLEEN   | ADAMS              | 2005-05-29 04:35:29 |
|             | 721       | 44           | MARIE      | TURNER             | 2005-05-29 05:28:47 |
|             | 763       | 50           | DIANE      | COLLINS            | 2005-05-29 11:32:15 |
|             | 794       | 50           | DIANE      | COLLINS            | 2005-05-29 16:44:11 |
|             | 751       | 53           | HEATHER    | MORRIS             | 2005-05-29 09:55:43 |

Result 23 x

- Lista el id de la renta, el id del cliente, fecha de renta y fecha de devolución de todas las rentas que se devuelven los días domingo del mes de junio

```
SELECT a.rental_id,b.customer_id,b.first_name,b.last_name,a.rental_date,a.return_dateFROM rental a, customer bWHERE b.customer_id=a.customer_id and month(return_date)=6 and dayname(return_date)="SUNDAY"
```

```
1 • SELECT a.rental_id,b.customer_id,b.first_name,b.last_name,a.rental_date,a.return_date
2 FROM rental a, customer b
3 WHERE b.customer_id=a.customer_id and month(return_date)=6 and dayname(return_date)="SUNDAY"
```

| Result Grid        |           |             |            |           |                     |                     |
|--------------------|-----------|-------------|------------|-----------|---------------------|---------------------|
| Filter Rows:       |           |             |            |           |                     |                     |
| Export:            |           |             |            |           |                     |                     |
| Wrap Cell Content: |           |             |            |           |                     |                     |
|                    | rental_id | customer_id | first_name | last_name | rental_date         | return_date         |
| ▶                  | 1422      | 1           | MARY       | SMITH     | 2005-06-15 18:02:53 | 2005-06-19 15:54:53 |
|                    | 1297      | 4           | BARBARA    | JONES     | 2005-06-15 09:31:28 | 2005-06-19 04:33:28 |
|                    | 1142      | 5           | ELIZABETH  | BROWN     | 2005-05-31 19:46:38 | 2005-06-05 14:03:38 |
|                    | 1631      | 5           | ELIZABETH  | BROWN     | 2005-06-16 08:01:02 | 2005-06-19 09:04:02 |
|                    | 1305      | 8           | SUSAN      | WILSON    | 2005-06-15 09:59:16 | 2005-06-19 09:48:16 |
|                    | 1995      | 10          | DOROTHY    | TAYLOR    | 2005-06-17 11:11:14 | 2005-06-26 16:37:14 |
|                    | 1933      | 13          | KAREN      | JACKSON   | 2005-06-17 06:54:42 | 2005-06-26 02:00:42 |
|                    | 346       | 14          | BETTY      | WHITE     | 2005-05-27 04:34:41 | 2005-06-05 04:24:41 |
|                    | 335       | 16          | SANDRA     | MARTIN    | 2005-05-27 03:07:10 | 2005-06-05 00:15:10 |
|                    | 1451      | 18          | CAROL      | GARCIA    | 2005-06-15 19:30:18 | 2005-06-19 19:22:18 |
|                    | 1558      | 20          | SHARON     | ROBINSON  | 2005-06-16 02:33:53 | 2005-06-19 20:50:53 |
|                    | 370       | 22          | LAURA      | RODRIG... | 2005-05-27 07:49:43 | 2005-06-05 06:39:43 |
|                    | 1716      | 24          | KIMBERLY   | LEE       | 2005-06-16 14:39:31 | 2005-06-19 15:37:31 |
|                    | 1338      | 25          | DEBORAH    | WALKER    | 2005-06-15 12:17:34 | 2005-06-19 07:40:34 |
|                    | 1365      | 25          | DEBORAH    | WALKER    | 2005-06-15 14:09:55 | 2005-06-19 18:11:55 |