



CSE 311L(Database Management System)

LAB-Week 03 (Lecture 1)

Restricting and Sorting Data

Topics:

- Limiting the Rows Selected
- Restricting with Character Strings and Dates
- Comparison Conditions
- Other Comparison Conditions

Limiting the Rows Selected

```
SELECT employee_id, last_name, job_id, department_id
FROM employees
WHERE department_id = 90 ;
```

Character Strings and Dates

```
SELECT last_name, job_id, department_id
FROM employees
WHERE last_name = 'WHALEN';
```

Comparison Conditions

| Operator | Meaning |
|----------|--------------------------|
| = | Equal to |
| > | Greater than |
| >= | Greater than or equal to |
| < | Less than |
| <= | Less than or equal to |
| <> | Not equal to |

| Operator | Meaning |
|----------------------|---------------------------------|
| BETWEEN ...AND... | Between two values (inclusive), |
| IN(set) | Match any of a list of values |
| LIKE | Match a character pattern |
| IS NULL | Is a null value |

```

SELECT last_name, salary
FROM employees
WHERE salary <= 3000;

```

Other Comparison Conditions

```

SELECT last_name, salary
FROM employees
WHERE salary BETWEEN 2500 AND 3500;

```

```

SELECT employee_id, last_name, salary, manager_id
FROM employees
WHERE manager_id IN (100, 101, 201);

```

ORDER BY Clause

```

SELECT last_name, job_id, department_id, hire_date
FROM employees
ORDER BY hire_date DESC ;

```

| LAST_NAME | JOB_ID | DEPARTMENT_ID | HIRE_DATE |
|-----------|----------|---------------|-----------|
| Zlotkey | SA_MAN | 80 | 29-JAN-00 |
| Mourgos | ST_MAN | 50 | 16-NOV-99 |
| Grant | SA_REP | | 24-MAY-99 |
| Lorentz | IT_PROG | 60 | 07-FEB-99 |
| Vargas | ST_CLERK | 50 | 09-JUL-98 |

Sorting by Multiple Columns

```

SELECT last_name, department_id, salary
FROM employees
ORDER BY department_id, salary DESC;

```

| LAST_NAME | DEPARTMENT_ID | SALARY |
|-----------|---------------|--------|
| Whalen | 10 | 4400 |
| Hartstein | 20 | 13000 |
| Fay | 20 | 6000 |
| Mourgos | 50 | 5800 |
| Rajs | 50 | 3500 |
| Davies | 50 | 3100 |
| Matos | 50 | 2600 |
| Vargas | 50 | 2500 |

Activity 01:

Display the employee last name, job ID, and start date of employees hired between February 20, 1998, and May 1, 1998. Order the query in ascending order by start date.

Activity 02:

Display the last name and department number of all employees in departments 20 and 50 in alphabetical order by name.



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LAB-Week 03 (Lecture 2)

Topics:

After completing this lesson, you should be able to restrict rows:

- Using the LIKE Condition
- Using the NULL Conditions
- Logical Conditions

Using the LIKE Condition

- ▶ Use the LIKE condition to perform wildcard searches of valid search string values.
- ▶ Search conditions can contain either literal characters or numbers:
 - % denotes zero or many characters.
 - _ denotes one character.

```
SELECT last_name  
FROM employees  
WHERE last_name LIKE '_o%';
```

The ESCAPE Option

```
SELECT employee_id, last_name, job_id  
FROM employees  
WHERE job_id LIKE '%SA\_%' ESCAPE '\';
```

| EMPLOYEE_ID | LAST_NAME | JOB_ID |
|-------------|-----------|--------|
| 149 | Zlotkey | SA_MAN |
| 174 | Abel | SA_REP |
| 176 | Taylor | SA_REP |
| 178 | Grant | SA_REP |

Using the NULL Conditions

```
SELECT last_name, manager_id FROM
employees
WHERE manager_id IS NULL;
```

Logical Conditions

| Operator | Meaning |
|----------|---|
| AND | Returns TRUE if <i>both</i> component conditions are true |
| OR | Returns TRUE if <i>either</i> component condition is true |
| NOT | Returns TRUE if the following condition is false |

```
SELECT employee_id, last_name, job_id, salary
FROM employees
WHERE salary >=10000
AND job_id LIKE '%MAN%';
```

| EMPLOYEE_ID | LAST_NAME | JOB_ID | SALARY |
|-------------|-----------|--------|--------|
| 149 | Zlotkey | SA_MAN | 10500 |
| 201 | Hartstein | MK_MAN | 13000 |

Using the NOT Operator

```
SELECT last_name, job_id
FROM employees
WHERE job_id
NOT IN ('IT_PROG', 'ST_CLERK', 'SA_REP');
```

| LAST_NAME | JOB_ID |
|-----------|---------|
| King | AD_PRES |
| Kochhar | AD_VP |
| De Haan | AD_VP |
| Mourgos | ST_MAN |
| Zlotkey | SA_MAN |
| Whalen | AD_ASST |
| Hartstein | MK_MAN |
| Fay | MK_REP |

Activity 01:

Display the last name and hire date of every employee who was hired in 1994.

Activity 02:

Display the last name, salary, and commission for all employees who earn commissions.
Sort data in descending order of salary and commissions.

Activity 03:

Display the last name of all employees who have an a and an e in their last name.