
CS - 571

Database Systems

for BS (CS)

Lecture: Introduction

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 Property for sale
in Pakistan

Buy

Rent

Projects

Wanted



Select City



All Homes




Then enter location here



Any



Price Range (Rs) 

Land Area Marla




From No Min

To No Max

From No Min

To No Max

 FIND PROPERTIES


 **Property for sale in Pakistan**


Buy

Rent

Projects

Wanted

 Lahore


 All Homes


Dha Phase 1 ×

Dha Phase 2 ×


Dha Phase 8 ×

Enter more locations here


 Any

Price Range (Rs) 

From To

Land Area 

From To

 FIND PROPERTIES

Property for sale in Pakistan

Buy Rent Projects Wanted

Lahore

dha

Chau dha ry Colony

Chau dha ry Park

Dha 11 Rahbar

Dha City

Dha Defence

Dha rampura

Dha 9 Town

Dha Phase 1

Dha Phase 10

All Homes

Any

Land Area Marla

From No Min To No Max

ND PROPERTIES

ort Living Destination

cated on main Canal Bank Road

kanal Central Courtyard

Other comparison operators

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

Using the Between operator

- Using the between operator to display rows based on a range

```
SQL> SELECT  ename, sal  
2  FROM      emp  
3  WHERE     sal BETWEEN 1000 AND 1500;
```

ENAME	SAL
MARTIN	1250
TURNER	1500
WARD	1250
ADAMS	1100
MILLER	1300

Lower
limit

Higher
limit

Using the IN operator

- Use the IN operator to test for values in a list

```
SQL> SELECT empno, ename, sal, mgr
2 FROM emp
3 WHERE mgr IN (7902, 7566, 7788);
```

EMPNO	ENAME	SAL	MGR
7902	FORD	3000	7566
7369	SMITH	800	7902
7788	SCOTT	3000	7566
7876	ADAMS	1100	7788

Using the LIKE operator

- Use the LIKE operator 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

```
SQL> SELECT  ename  
2  FROM      emp  
3  WHERE     ename LIKE 'S%';
```


Using the LIKE operator

- You can combine pattern-matching characters

```
SQL> SELECT  ename  
      2  FROM emp  
      3  WHERE   ename LIKE '_A%';
```

ENAME

MARTIN

JAMES

WARD

Using the IS NULL operator

- Test for null values with the IS NULL operator

```
SQL> SELECT  ename, mgr
      2 FROM    emp
      3 WHERE   mgr IS NULL;
```

ENAME	MGR
-----	-----
KING	

Logical Operators

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

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Buy

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Projects

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Select City



All Homes



Then enter location here



Any



Price Range (Rs) 

Land Area Marla



From No Min

To No Max

From No Min

To No Max

 FIND PROPERTIES

Using the OR operator

- OR requires either condition to be TRUE

```
SQL> SELECT empno, ename, job, sal
2   FROM emp
3   WHERE sal >= 1100
4   OR    job = 'CLERK';
```

EMPNO	ENAME	JOB	SAL
7839	KING	PRESIDENT	5000
7698	BLAKE	MANAGER	2850
7782	CLARK	MANAGER	2450
7566	JONES	MANAGER	2975
7654	MARTIN	SALESMAN	1250
...			
7900	JAMES	CLERK	950
...			

14 rows selected.

Using the NOT operator

```
SQL> SELECT ename, job
      2 FROM emp
      3 WHERE job NOT IN ('CLERK', 'MANAGER', 'ANALYST');
```

ENAME	JOB
-----	-----
KING	PRESIDENT
MARTIN	SALESMAN
ALLEN	SALESMAN
TURNER	SALESMAN
WARD	SALESMAN


Rule of Precedence

Order Evaluated	Operator
1 All comparison operators	
2 NOT	
3 AND	
4 OR	

- Override rule of precedence by using parantheses

Rule of Precedence

```
SQL> SELECT  ename, job, sal
      2  FROM    emp
      3  WHERE   job='SALESMAN'
      4  OR      job='PRESIDENT'
      5  AND     sal>1500;
```




ENAME	JOB	SAL
KING	PRESIDENT	5000
MARTIN	SALESMAN	1250
ALLEN	SALESMAN	1600
TURNER	SALESMAN	1500
WARD	SALESMAN	1250

Rule of Precedence

- Use parentheses to force priority

```
SQL> SELECT      ename, job, sal
  2  FROM          emp
  3  WHERE (job='SALESMAN'
  4  OR          job='PRESIDENT')
  5  AND          sal>1500;
```



ENAME	JOB	SAL
KING	PRESIDENT	5000
ALLEN	SALESMAN	1600

Order by clause

- Sort rows with the ORDER BY clause
 - ASC: Ascending order, default
 - DESC: descending order
- The ORDER BY clause comes last in the select statement

```
SQL> SELECT      ename, job, deptno, hiredate
  2  FROM          emp
  3  ORDER BY hiredate;
```

ENAME	JOB	DEPTNO	HIREDATE
-----	-----	-----	-----
SMITH	CLERK	20	17-DEC-80
ALLEN	SALESMAN	30	20-FEB-81
...			

14 rows selected.

Showing 1 to 20 of 20,208 properties

Sort by: Default Order



Excellent 1 Kanal Fully Furnished B..

DHA Phase 4 - Block FF, DHA Phase 4

5 Bed 6 Bath 1 Kanal

Extraordinary Home Will Surpass All Expectations, With Expansive Interior And Fine Finishes, This Luxury Bung Design By Architect Situated At DHA Phase 4. Outstand Plan Of This House. It Has ... more

Added: 5 days ago (Updated: 3 days ago)

Marketed By: Home Real Estate & B...

Trusted Agency

VIEW DETAILS

Add to Email Basket

VIEW NUMBER

SEND EMAIL

- Default Order
- Price Low to High
- Price High to Low
- Beds Low to High
- Beds High to Low
- Area Low to High
- Area High to Low
- Date New to Old
- Date Old to New
- Verified Only
- Hot Only
- With Videos
- With Photos



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Get Expert Advice



One Kanal Palace Main of Back Ne... Rs 4.85 Crore

DHA Phase 6, DHA Defence

5 Bed 6 Bath 1 Kanal

میں پڑھیں



DEAL
DHA DEFENCE
& BAHRIA T

0300-82
0321-92

SITARA LA
SHOPS & OFFICES
0300-66

SITARA SA
RES IDENTIAL & COM
0300-50

AL-B
Deal in
Bahria Town, En
DHA Valley & Ji
+92-321-9
+92-321-5

Sorting in Descending Order

```
SQL> SELECT      ename, job, deptno, hiredate
  2  FROM          emp
  3  ORDER BY hiredate DESC;
```

ENAME	JOB	DEPTNO	HIREDATE
ADAMS	CLERK	20	12-JAN-83
SCOTT	ANALYST	20	09-DEC-82
MILLER	CLERK	10	23-JAN-82
JAMES	CLERK	30	03-DEC-81
FORD	ANALYST	20	03-DEC-81
KING	PRESIDENT	10	17-NOV-81
MARTIN	SALESMAN	30	28-SEP-81
...			

14 rows selected.

Sorting by Multiple Columns

- The order to ORDER BY list is the order of sort

```
SQL> SELECT      ename, deptno, sal
  2  FROM        emp
  3  ORDER BY deptno, sal DESC;
```

ENAME	DEPTNO	SAL
-----	-----	-----
KING	10	5000
CLARK	10	2450
MILLER	10	1300
FORD	20	3000
...		

14 rows selected.

- You can sort by a column that is not in the SELECT list

Exercise

Display the name and salary of employees earning more than 2850\$

The name and salary for all employees whose salary is not in the range of 1500\$ and 2850\$

Exercise

Find the Names, job and state date (hiredate) of employees between 20 February 1981 and May 1, 1981 in ascending order

Exercise

- The name, job and salary for employees whose job is clerk or analyst and their salary is not equal to 1000, 3000, 4000

Exercise

- The name, job and salary for employees whose job is clerk or analyst and their salary is not equal to 1000, 3000, 4000
- Find the name, salary, and commission for all employees whose commission (CMM) amount is greater than their salary increased by 10%

