EXERCISE-5

Restricting and Sorting data

After the completion of this exercise, the students will be able to do the following:

- Limit the rows retrieved by the queries
- Sort the rows retrieved by the queries

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Limiting the Rows selected

- Using WHERE clause
- Alias cannot used in WHERE clause

Syntax

SELECT-----FROM-------WHERE condition;

Example:

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

Character strings and Dates

Character strings and date values are enclosed in single quotation marks.

Character values are case sensitive and date values are format sensitive.

Example:

SELECT employee_id,last_name, job_id, department_id FROM employees WHERE last name='WHALEN";

Comparison Conditions

All relational operators can be used. (=, >, >=, <, <=, <>,!=)

Example:

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

Other comparison conditions

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

Example:1

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

Example:2

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

Example:3

- Use the LIKE condition to perform wildcard searches of valid string values.
- Two symbols can be used to construct the search string
- % denotes zero or more characters
- denotes one character

SELECT first_name, salary FROM employees WHERE first_name LIKE '%s';

Example:4

SELECT last_name, salary FROM employees WHERE last_name LIKE ' o%';

Example:5

ESCAPE option-To have an exact match for the actual % and_ characters To search for the string that contain 'SA_'

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SELECT employee_id, first_name, salary,job_id FROM employees
WHERE job id LIKE '%sa\ %'ESCAPE'\';
```

Test for NULL

• Using IS NULL operator

Example:

SELECT employee_id, last_name, salary , manager_id FROM employees WHERE manager id IS NULL;

Logical Conditions

All logical operators can be used.(AND,OR,NOT)

Example:1

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

Example:2

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

Example:3

SELECT employee_id, last_name, salary , job_id FROM employees WHERE job id NOT IN ('it prog', st clerk', sa rep');

Rules of Precedence

Order	Operator	
Evaluated		
1	Arithmetic	
2	Concatenation	
3	Comparison	
4	IS [NOT] NULL, LIKE,	
	[NOT] IN	
5	[NOT] BETWEEN	
6	Logical NOT	
7	Logical AND	
8	Logical OR	

Example:1

SELECT employee_id, last_name, salary , job_id FROM employees
WHERE job_id ='sa_rep'
OR job_id='ad_pres'
AND salary>15000;

Example:2

SELECT employee_id, last_name, salary , job_id FROM employees
WHERE (job_id = 'sa_rep'
OR job_id='ad_pres')
AND salary>15000;

Sorting the rows

Using ORDER BY Clause

ASC-Ascending Order, Default

DESC-Descending order

Example:1

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

Example:2

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

Example:3

Sorting by column alias

SELECT last_name, salary*12 annsal, job_id,department_id,hire_date FROM employees ORDER BY annsal;

Example:4

Sorting by Multiple columns

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

Find the Solution for the following:

1. Create a query to display the last name and salary of employees earning more than 12000.

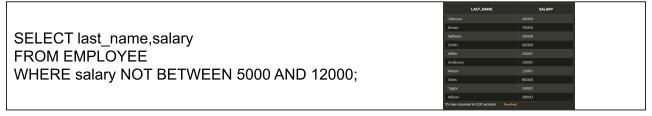


2. Create a query to display the employee last name and department number for employee number 176.

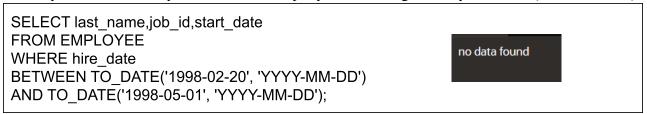
SELECT last_name,department_id
FROM EMPLOYEE
WHERE employee_id = 176;

Results Explain
no data found

3. Create a query to display the last name and salary of employees whose salary is not in the range of 5000 and 12000. (hints: not between)



4. 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.(hints: between)

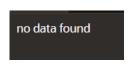


5. Display the last name and department number of all employees in departments 20 and 50 in alphabetical order by name.(hints: in, orderby)



6. Display the last name and salary of all employees who earn between 5000 and 12000 and are in departments 20 and 50 in alphabetical order by name. Label the columns EMPLOYEE, MONTHLY SALARY respectively.(hints: between, in)

SELECT last_name AS "MONTHLY SALARY", salary AS "EMPLOYEE" FROM EMPLOYEE WHERE department_id in (20,50) AND salary between 5000 AND 12000 ORDER BY last_name ASC;



7. Display the last name and hire date of every employee who was hired in 1994.(hints: like)

SELECT last_name, hire_date FROM EMPLOYEE WHERE TO CHAR(hire_date, 'YYYY') LIKE '1994'; no data found

8. Display the last name and job title of all employees who do not have a manager.(hints: is null)

SELECT last_name, job_id FROM EMPLOYEE WHERE manager_id IS NULL;



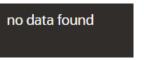
9. Display the last name, salary, and commission for all employees who earn commissions. Sort data in descending order of salary and commissions.(hints: is not nul,orderby)

SELECT last_name, salary, commission_pct FROM EMPLOYEE WHERE commission_pct IS NOT NULL ORDER BY salary DESC, commission_pct DESC;

LAST_NAME	SALARY	COMMISSION_PCT		
Williams	50000			
Moore	22000	.05		
2 rows returned in 0.01 seconds Download				

10. Display the last name of all employees where the third letter of the name is a.(hints:like)

SELECT last_name FROM EMPLOYEE WHERE last_name LIKE '__a%';



11. Display the last name of all employees who have an a and an e in their last name.(hints: like)

SELECT last_name FROM EMPLOYEE WHERE last_name LIKE '%a%' AND last_name LIKE '%e%';

no data found

12. Display the last name and job and salary for all employees whose job is sales representative or stock clerk and whose salary is not equal to 2500 ,3500 or 7000.(hints:in,not in)

SELECT last_name, job_id, salary FROM EMPLOYEE WHERE job_id IN ('SA_REP', 'SA_CLERK') AND salary NOT IN (2500, 3500, 7000);

LAST_NAME	JOB_ID	SALARY	
Williams	SA_REP	50000	
Moore	SA_CLERK	22000	
2 rows returned in 0.01 seconds Download			

13. Display the last name, salary, and commission for all employees whose commission amount is 20%.(hints:use predicate logic)

SELECT last_name, salary, commission_pct FROM EMPLOYEE WHERE commission pct = 0.20;

no data found

Evaluation Procedure	Marks awarded
Query(5)	
Execution (5)	
Viva(5)	
Total (15)	
Faculty Signature	