

# CS 6660 – Database Systems Programming Assignment #7

## Final Exam Review Exercise

Answer the following questions:

1. Which two operators cannot be used in an outer join condition (choose two)

- A. =
- B. IN
- C. AND
- D. OR

**Correct answer: B, D**

2. You query the database with this command:

```
SELECT id_number, (quantity - 100 / 0.15 - 35 * 20)
FROM inventory
```

Which expression is evaluated first (choose one)?

- A. quantity - 100
- B. 0.15-35
- C. 35\*20
- D. 100/0.15

**Correct answer: D**

3. Operator John needs to search for text data in a column, but he only remembers part of the string. Which of the following SQL operations allows the use of wildcard comparisons (choose one)?

- A. BETWEEN
- B. IN
- C. LIKE
- D. EXISTS

**Correct Answer: C**

4. Given the following data in the emp table:

ENAME	SALARY
-----	-----
PING	5000
AILYN	4999
SAM	1000
LESLIE	3000
TOM	2500
RAVI	10000

What will the following select statement produce (choose one)?

```
SELECT ename FROM emp WHERE salary BETWEEN 3000 AND 5000;
```

A. ENAME  
-----  
AILYN

B. ENAME  
-----  
PING  
CHRIS  
LESLIE

C. an error

D. None of the above

**Correct Answer: B**

5. Which one of the following statements contains an error (choose one)?

A) Select \* from EMP where EMPID = 493945;

B) Select EMPID from EMP where EMPID = 493945;

C) Select EMPID from EMP;

D) Select EMPID where EMPID = 56949 and LASTNAME = 'SMITH';

E) None of the statements above contains an error.

**Correct answer: D**

6. Which of the following queries would show the salaries of all employees (not the boss) who have the same name as the boss (the only employee without a manager (mgr)) (choose one)?

- A. 

```
select sal
from emp
where ename same as
(ename where mgr is NULL);
```
- B. 

```
select sal
from emp
where ename like
(select ename from emp where mgr is NULL)
and mgr is not NULL;
```
- C. 

```
select sal
from emp
where mgr != NULL and ename =
(select ename from emp where mgr = NULL);
```
- D. All of the above
- E. None of the above

**Correct Answer: B**

7. You wish to join the data from two tables, DEPARTMENT and EMPLOYEE, into one result set and display that set in your session. Tables DEPARTMENT and EMPLOYEE have a common column, called dept\_no in both tables. Which of the following choices correctly displays the where clause you would use if you want to see the data in table DEPARTMENT where the value is 80 in column dept\_no, even when there was no corresponding value in table EMPLOYEE (choose one)?

- A. 

```
where DEPARTMENT.dept_no = 80 AND DEPARTMENT.dept_no(+)
= EMPLOYEE.dept_no;
```
- B. 

```
where DEPARTMENT.dept_no = 80 AND DEPARTMENT.dept_no =
EMPLOYEE.dept_no(+);
```
- C. 

```
where DEPARTMENT.dept_no = 80 AND DEPARTMENT.dept_no(+)
= EMPLOYEE.dept_no(+);
```
- D. 

```
where DEPARTMENT.dept_no = 80;
```

**Correct Answer: B**

8. Which of the following are true when using table aliases? (Choose three)

- A. Table aliases can be up to 30 characters in length.
- B. Table aliases should be as long as possible for readability.
- C. If a table alias is used for a particular table name in the FROM clause, then that table alias must be substituted for the table name throughout the SELECT statement.
- D. they must be less than 30 characters in length.
- E. A table alias is valid for the entire session.

**Correct Answers: A, C, D**

9. How many join conditions are required to join n tables (choose one)?

- A. n
- B. any number of join conditions
- C. at least 3
- D. (n-1)

**Correct Answer: D**

10. What type of queries typically involve self-joins (choose the one best answer)?

- A. queries where rows in a table refer to other rows in the same table
- B. queries where the join column can be null
- C. queries involving multiple tables with foreign keys
- D. introspective queries

Correct Answer: A

11. In an application, you are searching for specific employee information in the EMPLOYEE table corresponding to an invoice number you have. The INVOICE table contains empid, the primary key for EMPLOYEE. Which of the following operations is appropriate for obtaining data from EMPLOYEE using your invoice number (choose one)?

- A. `select * from EMPLOYEE where empid = 10465312;`
- B. `select * from EMPLOYEE where empid = (select invoice_no from invoice`

- where invoice\_no = 10465312);
- C. select \* from EMPLOYEE where empid = (select empid from invoice where invoice\_no = 10465312);
- D. select e.empid, i.invoice\_no  
from EMPLOYEE e, INVOICE i  
where e.invoice\_no = i.invoice\_no;

**Correct Answer: C**

12. You are developing advanced queries for an Oracle database. Which of the following where clauses makes use of Oracle's ability to logically test a value against a set of results returned without explicitly knowing what the set is before executing the query (choose one)?

- A. where COL\_A = 5
- B. where COL\_A in (1,2,3,4,5)
- C. where COL\_A between 6 and 10
- D. where COL\_A in (select num from TAB\_OF\_NUMS)

**Correct Answer: D**

13. What is the effect of an ORDER BY clause inside a nested subquery (choose one)?

- A. It causes matching rows in the outer query to be displayed in that order
- B. It has no effect on the final output, and therefore reduces the efficiency of the query
- C. It generates an error
- D. It is ignored
- E. None of the above

**Correct Answer: C**

14. Choose the SQL phrase that is equivalent to (choose one):

where sal in (select sal from emp  
where job = 'MANAGER')

- A. where sal <> ALL(select sal from emp  
where job = 'MANAGER')
- B. where sal = ANY(select sal from emp  
where job = 'MANAGER')

C. where sal >= (select MIN(sal)  
from emp  
where job = 'MANAGER')  
and sal <= (select MAX(sal)  
from emp  
where job = 'MANAGER')

D. All of the above

E. None of the above

**Correct Answer: B**

15. Which query will return the job with the lowest average salary (choose one)?

A. SELECT job, min(avg(sal))  
FROM emp  
GROUP BY job;

B. SELECT job, sal  
FROM emp  
WHERE sal <=  
(SELECT min(avg(sal))  
FROM emp  
GROUP BY job);

C. SELECT job, avg(sal)  
FROM emp  
GROUP BY job  
HAVING avg(sal) =  
(SELECT min(avg(sal))  
FROM emp  
GROUP BY job);

D. SELECT job, min(avg(sal))  
FROM emp  
WHERE sal = (SELECT min(avg(sal))  
FROM emp  
GROUP BY job);

**Correct Answer: C**

16. What is wrong with this select statement (choose three)?

```
SELECT ename 'Employee Name' + " works in department " +  
deptno  
FROM emp;
```

- A. There is no join criteria
- B. 'Employee Name' should not be in single quotes
- C. The concatenation operator is incorrect
- D. "works in department" should not be in double quotes
- E. Nothing, this statement is correct

**Answer: B, C, D**

17. Given the following:

empno	ename	sal	bonus
5123	SMITH	800	100
5124	JONES	900	
5125	DONNER	500	50

What will result from the SQL query: SELECT ename, sal \* 12 + bonus WHERE empno = 5124 (choose one);

A. ENAME SAL\*12+BONUS

---

JONES 10800

B. ORA-ERROR

C. no rows selected

D. ENAME SAL\*12+BONUS

---

JONES

E. ENAME SAL\*12+BONUS

---

JONES 0

**Answer: D**

18. Which of the following commands creates a file containing output from an SQL\*Plus session (choose one)?

- A. SAVE filename
- B. SPOOL filename
- C. SCRIPT filename
- D. SEND >> filename
- E. @filename

**Answer: B**

19. Which of the following SQL statements lists each department, at most, only once (choose three)? (deptno is the primary key of the dept table, and a foreign key of the emp table)

- A. SELECT deptno FROM emp;
- B. SELECT deptno FROM dept;
- C. SELECT distinct deptno FROM dept;
- D. SELECT distinct deptno FROM emp;
- E. all of the above

**Answer: B, C, D**

20. Given the following emp table and SQL query

empno	ename	sal
1	SEBASTIAN	100
2	SAM	100
3	SALLY	120

SELECT ename, sal + (decode(length(ename),3,20,4,25,5,30,0)) "new salary" FROM emp;

What will "new salary" for Sebastian be (choose one)?

- A. 100
- B. 103
- C. 135
- D. 130
- E. 120

**Answer: A**



21. Which of the following formats will produce the date

Saturday, the fifth day of March (choose one)?

- A. 'DD, "the" DTH "day of" MON'
- B. 'DY ", the " D "day of" MONTH'
- C. 'fmDAY, "the" DDspth "day of" fmMONTH'
- D. 'DY, "the" Dspth "day of" MONTH'
- E. 'DD, "the" DDTH "day of" MM'

**Answer: C**

22. Given the statement: `SELECT TO_CHAR(sal,'$9,999') SALARY  
FROM emp  
WHERE ename = 'SCOTT';`

What happens if SCOTT makes \$10,000 (choose one)?

- A. An ORACLE error is generated
- B. His salary will show as #####
- C. His salary will be truncated to \$1,000
- D. The field will be automatically extended to handle the extra digit
- E. The salary field will be left blank

**Answer: B**

23. Which of the following Date functions produces a date with the year 1995 (choose three)?

- A. `ROUND(to_date('25-JUL-95','DD-MON-YY'),'MONTH')`
- B. `ROUND(to_date('25-JUL-95','DD-MON-YY'),'YEAR')`
- C. `TRUNC(to_date('25-JUL-95','DD-MON-YY'),'MONTH')`
- D. `TRUNC(to_date('25-JUL-95','DD-MON-YY'),'YEAR')`
- E. `TRUNC(to_date('25-JUL-94','DD-MON-YY'),'YEAR')`

**Answer: A, C, D**

24. Which of the statements below selects names in which the 3rd character is a vowel (a,e,i,o,u) (choose three) ?

- A. `SELECT decode(upper( substr(ename,3,1)),  
'A',ename,`

```
'E',ename,  
'I',ename,  
'O',ename,  
'U',ename) FROM emp;
```

B. SELECT ename FROM emp WHERE  
upper(substr(ename,3,1)) like 'A' or  
upper(substr(ename,3,1)) like 'E' or  
upper(substr(ename,3,1)) like 'I' or  
upper(substr(ename,3,1)) like 'O' or  
upper(substr(ename,3,1)) like 'U';

C. SELECT ename FROM emp WHERE upper(ename) like  
'%A%' or  
'%E%' or  
'%I%' or  
'%O%' or  
'%U%';

D. SELECT ename FROM emp WHERE  
upper(substr(ename,3,1)) like '\_\_A%' or  
upper(substr(ename,3,1)) like '\_\_E%' or  
upper(substr(ename,3,1)) like '\_\_I%' or  
upper(substr(ename,3,1)) like '\_\_O%' or  
upper(substr(ename,3,1)) like '\_\_U%' ;

E. SELECT ename FROM emp WHERE upper(ename) like  
'\_\_A%' or  
upper(ename) like '\_\_E%' or  
upper(ename) like '\_\_I%' or  
upper(ename) like '\_\_O%' or  
upper(ename) like '\_\_U%';

**Answer: A, B ,E**

25. Which of the following statements will get a count of every employee (5) in the emp table below (choose three)?

empno(primary key)	ename	deptno	sal
--------------------	-------	--------	-----

---

101	Washington	10	
102	Lincoln	10	100
103	Roosevelt	20	150
104	Jackson	30	200
105	Roosevelt	50	200

- A. SELECT count(\*) FROM emp;
- B. SELECT count(distinct empno) FROM emp;
- C. SELECT count(all deptno) FROM emp;
- D. SELECT count (distinct deptno) FROM emp;
- E. SELECT count() FROM emp;

**Answer: A, B, C**

26. Which is a true statement about the "having clause" (choose one)?

- A. It is used to restrict rows
- B. It is used to restrict groups
- C. It is used to restrict columns
- D. It must contain all non-group values in the select clause
- E. None of the above

**Answer: B**

27. The select clause, "SELECT deptno, avg(sal), count(deptno)", requires (choose two):

- A. A FROM clause
- B. A GROUP BY clause
- C. A HAVING clause
- D. An ORDER BY clause
- E. All of the above

**Answer: A, B**

28. Which of the following are group functions (choose three)?

- A. count
- B. round
- C. min
- D. length
- E. avg

**Answer: A, C, E**

29. Which of the following statements displays the average salary for managers, by department, in order of increasing department number (choose one)?

- A. 

```
SELECT avg(sal)
FROM emp
GROUP BY deptno
HAVING job = 'MANAGER'
ORDER BY deptno asc;
```
- B. 

```
SELECT avg(sal)
FROM emp
WHERE job='MANAGER'
GROUP BY deptno
ORDER BY deptno;
```
- C. 

```
SELECT avg(sal)
FROM emp
WHERE job == 'MANAGER'
ORDER BY deptno;
```
- D. 

```
SELECT avg(sal)
FROM emp
GROUP BY job
HAVING job = 'MANAGER'
```
- E. None of the above

**Answer: B**

30. Which of the following statements about multiple column subqueries are false (choose three)?

- A. Can be in a where clause
- B. Can be in a From Clause
- C. Can only be in a From Clause
- D. May be used in a where clause only for pairwise comparisons
- E. Compares several columns but returns only one value

**Answer: C, D, E**

31. Which of the following queries correctly lists all employees who have no subordinates (choose two)?

- A. SELECT employee.ename  
FROM emp employee  
WHERE employee.empno NOT IN  
(SELECT manager.mgr  
FROM emp manager);
- B. SELECT employee.ename FROM emp employee  
WHERE employee.empno NOT IN  
(SELECT manager.mgr  
FROM emp manager  
WHERE mgr IS NOT NULL);
- C. SELECT employee.ename FROM emp employee  
WHERE employee.empno NOT EXISTS  
(SELECT manager.mgr  
FROM emp manager);
- D. SELECT employee.ename FROM emp employee, emp manager  
WHERE employee.empno <> employee.mgr ;
- E. None of the above

**Answer: B, C**

32. Which of the statements below describe the following query (choose two)?

```
SELECT empno, deptno, sal
FROM emp
WHERE deptno IN (SELECT deptno
FROM emp
WHERE empno = 1015)
AND
sal IN (SELECT sal
FROM emp
WHERE empno = 1015)
AND empno <> 1015;
```

- A. Pairwise column comparison
- B. Non- pairwise column comparison

- C. Single row
- D. Multiple column
- E. None of the above

**Answer: B, D**

33. Which of the following statements are true (choose two)?

- A. 'NOT IN' is equivalent to != ALL
- B. 'IN' is equivalent to != ALL
- C. 'NOT IN' is equivalent to =ANY
- D. 'IN' is equivalent to =ANY
- E. None of the above are true

**Answer: A, D**

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