PAMANTASAN NG LUNGSOD NG MAYNILA

(University of the City of Manila)

Intramuros, Manila

# DML and Select Activity

## in

# Object Oriented Programming

A.Y 2024-2025

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Submitted To:

Prof. Atienza

**DML and SELECT command Activity**

General Directions:

1. Use and connect to HR user (password is hr) and provide the correct and complete SQL command on each given question.

2. Make a screenshot of the command used and output (if output is too many, just a portion of it will do) as well. Put everything in a Word document and submit a pdf file copy to MSTeams.
Filename;  <surname1>_<surname2>_<surname3>_DML_SELECT_Activity.pdf.

3. This is an activity of 2 or 3 members in a group.

Questions:

1. Display the employee id, surname and firstname whose employee id is equal to 110.

```
SELECT employee_id
     , last_name
     , first_name
  FROM hr.employees
WHERE employee_id = 110;
```

Output:

```
--1. Display the employee id, surname and firstname whose employee id is equal to 110.
SELECT employee_id
     , last_name
     , first_name
  FROM HR.EMPLOYEES
WHERE employee_id = 110;
```

Query Result ×

SQL | All Rows Fetched: 1 in 0.005 seconds

| EMPLOYEE_ID | LAST_NAME | FIRST_NAME |
|---|---|---|
| 1 | 110 Chen | John |

2. Display the employee id, surname, firstname, manager id, job id and salary whose manager id is equal to 100.

```sql
SELECT employee_id
     , last_name
     , first_name
     , manager_id
     , job_id
     , salary
  FROM hr.employees
 WHERE manager_id = 100;
```

Output:

```sql
-- 2. Display the employee id, surname, firstname, manager id, job id and salary whose manager id is equal to 100.
SELECT employee_id
     , last_name
     , first_name
     , manager_id
     , job_id
     , salary
  FROM HR.employees
 WHERE manager_id = 100;
```

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME | MANAGER_ID | JOB_ID | SALARY |
|---|---|---|---|---|---|---|
| 1 | 101 | Kochhar | Neena | 100 | AD_VP | 17000 |
| 2 | 102 | De Haan | Lex | 100 | AD_VP | 17000 |
| 3 | 114 | Raphaely | Den | 100 | PU_MAN | 11000 |
| 4 | 120 | Weiss | Matthew | 100 | ST_MAN | 8000 |
| 5 | 121 | Fripp | Adam | 100 | ST_MAN | 8200 |
| 6 | 122 | Kaufling | Payam | 100 | ST_MAN | 7900 |
| 7 | 123 | Vollman | Shanta | 100 | ST_MAN | 6500 |
| 8 | 124 | Mourgos | Kevin | 100 | ST_MAN | 5800 |
| 9 | 145 | Russell | John | 100 | SA_MAN | 14000 |
| 10 | 146 | Partners | Karen | 100 | SA_MAN | 13500 |
| 11 | 147 | Errazuriz | Alberto | 100 | SA_MAN | 12000 |
| 12 | 148 | Cambrault | Gerald | 100 | SA_MAN | 11000 |
| 13 | 149 | Zlotkey | Eleni | 100 | SA_MAN | 10500 |

3. Display the employee id, surname, firstname and hire date of all employees whose hire dates are between January 01, 2005 and Dec. 31, 2010.

```sql
SELECT employee_id
     , last_name
     , first_name
     , hire_date
  FROM hr.employees
 WHERE hire_date BETWEEN '01-01-2005' AND '12-31-2010';
```

Output:

```
-- 3. Display the employee id, surname, firstname and hire date of all employees whose hire dates are between January 01, 2005
-- and Dec. 31, 2010.
SELECT employee_id
     , last_name
     , first_name
     , hire_date
  FROM HR.EMPLOYEES
 WHERE hire_date BETWEEN '01-01-2005' AND '12-31-2010';
```

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME | HIRE_DATE |
|---|---|---|---|---|
| 1 | 101 | Kochhar | Neena | 09/21/2005 |
| 2 | 103 | Hunold | Alexander | 01/03/2006 |
| 3 | 104 | Ernst | Bruce | 05/21/2007 |
| 4 | 105 | Austin | David | 06/25/2005 |
| 5 | 106 | Pataballa | Valli | 02/05/2006 |
| 6 | 107 | Lorentz | Diana | 02/07/2007 |
| 7 | 110 | Chen | John | 09/28/2005 |
| 8 | 111 | Sciarra | Ismael | 09/30/2005 |
| 9 | 112 | Urman | Jose Manuel | 03/07/2006 |
| 10 | 113 | Popp | Luis | 12/07/2007 |
| 11 | 116 | Baida | Shelli | 12/24/2005 |
| 12 | 117 | Tobias | Sigal | 07/24/2005 |
| 13 | 118 | Himuro | Guy | 11/15/2006 |
| 14 | 119 | Colmenares | Karen | 08/10/2007 |
| 15 | 121 | Fripp | Adam | 04/10/2005 |
| 16 | 123 | Vollman | Shanta | 10/10/2005 |
| 17 | 124 | Mourgos | Kevin | 11/16/2007 |

4. Display all fields of hr.employees whose salaries are greater or equal to 10,000.

```
SELECT *
  FROM hr.employees
 WHERE salary >= 10000;
```

```
-- 4. Display all fields of hr.employees whose salaries are greater or equal to 10,000.
SELECT *
  FROM HR.employees
 WHERE salary >= 10000;
```

| | EMPLOYEE_ID | FIRST_NAME | LAST_NAME | EMAIL | PHONE_NUMBER | HIRE_DATE | JOB_ID | SALARY | COMMISSION_PCT | MANAGER_ID | DEPARTMENT_ID |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 100 | Steven | King | SKING | 515.123.4567 | 06/17/2003 | AD_PRES | 24000 | (null) | (null) | 90 |
| 2 | 101 | Neena | Kochhar | NKOCHHAR | 515.123.4568 | 09/21/2005 | AD_VP | 17000 | (null) | 100 | 90 |
| 3 | 102 | Lex | De Haan | LDEHAAN | 515.123.4569 | 01/13/2001 | AD_VP | 17000 | (null) | 100 | 90 |
| 4 | 108 | Nancy | Greenberg | NGREENBE | 515.124.4569 | 08/17/2002 | FI_MGR | 12008 | (null) | 101 | 100 |
| 5 | 114 | Den | Raphaely | DRAPHEAL | 515.127.4561 | 12/07/2002 | PU_MAN | 11000 | (null) | 100 | 30 |
| 6 | 145 | John | Russell | JRUSSEL | 011.44.1344.429268 | 10/01/2004 | SA_MAN | 14000 | 0.4 | 100 | 80 |
| 7 | 146 | Karen | Partners | KPARTNER | 011.44.1344.467268 | 01/05/2005 | SA_MAN | 13500 | 0.3 | 100 | 80 |
| 8 | 147 | Alberto | Errazuriz | AERRAZUR | 011.44.1344.429278 | 03/10/2005 | SA_MAN | 12000 | 0.3 | 100 | 80 |
| 9 | 148 | Gerald | Cambrault | GCAMBRAU | 011.44.1344.619268 | 10/15/2007 | SA_MAN | 11000 | 0.3 | 100 | 80 |
| 10 | 149 | Eleni | Zlotkey | EZLOTKEY | 011.44.1344.429018 | 01/29/2008 | SA_MAN | 10500 | 0.2 | 100 | 80 |
| 11 | 150 | Peter | Tucker | PTUCKER | 011.44.1344.129268 | 01/30/2005 | SA_REP | 10000 | 0.3 | 145 | 80 |
| 12 | 156 | Janette | King | JKING | 011.44.1345.429268 | 01/30/2004 | SA_REP | 10000 | 0.35 | 146 | 80 |
| 13 | 162 | Clara | Vishney | CVISHNEY | 011.44.1346.129268 | 11/11/2005 | SA_REP | 10500 | 0.25 | 147 | 80 |

5. Display the employee id, surname, firstname, hire date and salary of all employees whose hire dates are between January 01, 2020 and Dec. 31, 2024 or salaries are in the range of 100 to 15000.

```sql
SELECT employee_id
     , last_name
     , first_name
     , hire_date
     , salary
  FROM hr.employees
 WHERE hire_date BETWEEN '01-01-2020' AND '12-31-2024' OR salary BETWEEN 100 AND 15000;
```

Output:

6. Display the employee id, surname, firstname, hire date, salary, job id and department id of all employees whose job ids contain a string 'CLERK' and department ids equal to 10,20,30,40 and 50.

```sql
SELECT employee_id
     , last_name
     , first_name
     , hire_date
     , salary
     , job_id
     , department_id
  FROM hr.employees
 WHERE job_id LIKE '%CLERK%' AND department_id in (10, 20, 30, 40, 50);
```

```sql
-- 6.  Display the employee id, surname, firstname, hire date, salary, job id and de
SELECT employee_id
     , last_name
     , first_name
     , hire_date
     , salary
     , job_id
     , department_id
  FROM HR.employees
 WHERE job_id  LIKE '%CLERK%' AND department_id in (10, 20, 30, 40, 50);
```

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME | HIRE_DATE | SALARY | JOB_ID | DEPARTMENT_ID |
|---|---|---|---|---|---|---|---|
| 1 | 115 | Khoo | Alexander | 05/18/2003 | 3100 | PU_CLERK | 30 |
| 2 | 116 | Baida | Shelli | 12/24/2005 | 2900 | PU_CLERK | 30 |
| 3 | 117 | Tobias | Sigal | 07/24/2005 | 2800 | PU_CLERK | 30 |
| 4 | 118 | Himuro | Guy | 11/15/2006 | 2600 | PU_CLERK | 30 |
| 5 | 119 | Colmenares | Karen | 08/10/2007 | 2500 | PU_CLERK | 30 |
| 6 | 125 | Nayer | Julia | 07/16/2005 | 3200 | ST_CLERK | 50 |
| 7 | 126 | Mikkilineni | Irene | 09/28/2006 | 2700 | ST_CLERK | 50 |
| 8 | 127 | Landry | James | 01/14/2007 | 2400 | ST_CLERK | 50 |
| 9 | 128 | Markle | Steven | 03/08/2008 | 2200 | ST_CLERK | 50 |
| 10 | 129 | Bissot | Laura | 08/20/2005 | 3300 | ST_CLERK | 50 |
| 11 | 130 | Atkinson | Mozhe | 10/30/2005 | 2800 | ST_CLERK | 50 |
| 12 | 131 | Marlow | James | 02/16/2005 | 2500 | ST_CLERK | 50 |
| 13 | 132 | Olson | TJ | 04/10/2007 | 2100 | ST_CLERK | 50 |
| 14 | | | | | | | |

7. Display the employee id, surname, firstname, hire date, salary, job id, department id and the
below condition (name the derived column as Remarks):
If commission_pct is null then make it 0 else display the commission_pct.

```
SELECT employee_id
      , last_name
      , first_name
      , hire_date
      , salary
      , job_id
      , department_id
      , NVL(commission_pct, 0) AS Remarks
   FROM hr.employees;
```
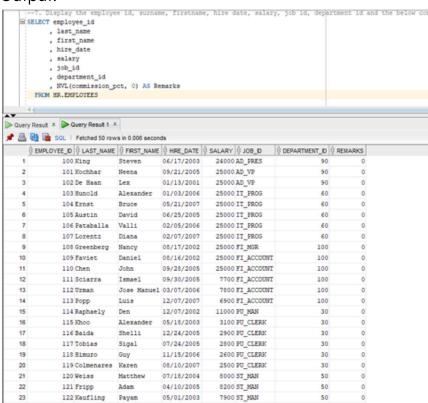
Output:



8. Repeat question # 4 and add a derived column (alternale_email) by getting only the first 5 letters of an employee's surname and firstname. Concatenate this by adding '@plm.edu.ph'.

Example:    ATIEN_FRANC@plm_edu.ph

Note: If there are surnames that contain space/s, delete it.

Example: De Los Santos  ->  DELOS

```
-- note: we used alias emp to avoid ' SELECT * comma '  error
SELECT emp.*,
       UPPER(SUBSTR(REPLACE(emp.last_name, ' ', ''), 1, 5) || '_' ||
       SUBSTR(REPLACE(emp.first_name, ' ', ''), 1, 5)) || '@plm.edu.ph' alternate_email
  FROM hr.employees emp
 WHERE emp.salary >= 10000;
```

```
SELECT emp.*,
       UPPER(SUBSTR(REPLACE(emp.last_name, ' ', ''), 1, 5) || '_' ||
       SUBSTR(REPLACE(emp.first_name, ' ', ''), 1, 5)) || '@plm.edu.ph' alternate_email
  FROM HR.employees emp
 WHERE emp.salary >= 10000;
```

| | EMPLOYEE_ID | FIRST_NAME | LAST_NAME | EMAIL | PHONE_NUMBER | HIRE_DATE | JOB_ID | SALARY | COMMISSION_PCT | MANAGER_ID | DEPARTMENT_ID | ALTERNATE_EMAIL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 100 | Steven | King | SKING | 515.123.4567 | 06/17/2003 | AD_PRES | 24000 | (null) | (null) | 90 | KING_STEVE@plm.edu.ph |
| 2 | 101 | Neena | Kochhar | NKOCHHAR | 515.123.4568 | 09/21/2005 | AD_VP | 17000 | (null) | 100 | 90 | KOCHH_NEENA@plm.edu.ph |
| 3 | 102 | Lex | De Haan | LDEHAAN | 515.123.4569 | 01/13/2001 | AD_VP | 17000 | (null) | 100 | 90 | DEHAA_LEX@plm.edu.ph |
| 4 | 108 | Nancy | Greenberg | NGREENBE | 515.124.4569 | 08/17/2002 | FI_MGR | 12008 | (null) | 101 | 100 | GREEN_NANCY@plm.edu.ph |
| 5 | 114 | Den | Raphaely | DRAPHEAL | 515.127.4561 | 12/07/2002 | PU_MAN | 11000 | (null) | 100 | 30 | RAPHA_DEN@plm.edu.ph |
| 6 | 145 | John | Russell | JRUSSEL | 011.44.1344.429268 | 10/01/2004 | SA_MAN | 14000 | 0.4 | 100 | 80 | RUSSE_JOHN@plm.edu.ph |
| 7 | 146 | Karen | Partners | KPARTNER | 011.44.1344.467268 | 01/05/2005 | SA_MAN | 13500 | 0.3 | 100 | 80 | PARTN_KAREN@plm.edu.ph |
| 8 | 147 | Alberto | Errazuriz | AERRAZUR | 011.44.1344.429278 | 03/10/2005 | SA_MAN | 12000 | 0.3 | 100 | 80 | ERRAZ_ALBER@plm.edu.ph |
| 9 | 148 | Gerald | Cambrault | GCAMBRAU | 011.44.1344.619268 | 10/15/2007 | SA_MAN | 11000 | 0.3 | 100 | 80 | CAMBR_GERAL@plm.edu.ph |
| 10 | 149 | Eleni | Zlotkey | EZLOTKEY | 011.44.1344.429018 | 01/29/2008 | SA_MAN | 10500 | 0.2 | 100 | 80 | ZLOTK_ELENI@plm.edu.ph |
| 11 | 150 | Peter | Tucker | PTUCKER | 011.44.1344.129268 | 01/30/2005 | SA_REP | 10000 | 0.3 | 145 | 80 | TUCKE_PETER@plm.edu.ph |
| 12 | 156 | Janette | King | JKING | 011.44.1345.429268 | 01/30/2004 | SA_REP | 10000 | 0.35 | 146 | 80 | KING_JANET@plm.edu.ph |
| 13 | 162 | Clara | Vishney | CVISHNEY | 011.44.1346.129268 | 11/11/2005 | SA_REP | 10500 | 0.25 | 147 | 80 | VISHN_CLARA@plm.edu.ph |

9. Repeat question # 5 by adding a derived column (salary_increase) by increasing the  employee's salary by 10%.
Example: Employee's salary = 10,000 then salary_increase = 11,000.

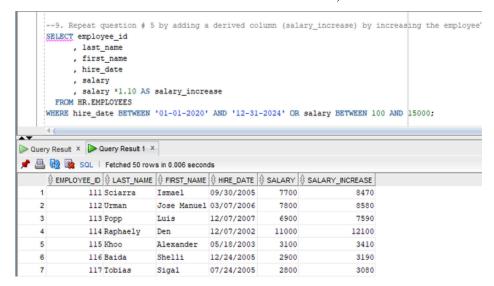```
SELECT employee_id
     , last_name
     , first_name
     , hire_date
     , salary
     , salary *1.10 AS salary_increase
  FROM hr.employees
WHERE hire_date BETWEEN '01-01-2020' AND '12-31-2024' OR salary BETWEEN 100 AND 15000;
```

Output:

```
--9. Repeat question # 5 by adding a derived column (salary_increase) by increasing the employee'
SELECT employee_id
     , last_name
     , first_name
     , hire_date
     , salary
     , salary *1.10 AS salary_increase
  FROM HR.EMPLOYEES
WHERE hire_date BETWEEN '01-01-2020' AND '12-31-2024' OR salary BETWEEN 100 AND 15000;
```

Query Result ×   Query Result 1 ×

SQL | Fetched 50 rows in 0.006 seconds

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME | HIRE_DATE | SALARY | SALARY_INCREASE |
|---|---|---|---|---|---|---|
| 1 | 111 | Sciarra | Ismael | 09/30/2005 | 7700 | 8470 |
| 2 | 112 | Urman | Jose Manuel | 03/07/2006 | 7800 | 8580 |
| 3 | 113 | Popp | Luis | 12/07/2007 | 6900 | 7590 |
| 4 | 114 | Raphaely | Den | 12/07/2002 | 11000 | 12100 |
| 5 | 115 | Khoo | Alexander | 05/18/2003 | 3100 | 3410 |
| 6 | 116 | Baida | Shelli | 12/24/2005 | 2900 | 3190 |
| 7 | 117 | Tobias | Sigal | 07/24/2005 | 2800 | 3080 |

10. Repeat question # 1 and the output should have surnames and first names arranged ascendingly.

```
SELECT employee_id
       , last_name
       , first_name
  FROM hr.employees
 WHERE employee_id = 110
 ORDER BY last_name ASC, first_name ASC;
```

```
-- 10. Repeat question # 1 and the output should have surnames and firstnames arranged ascendingly.

SELECT employee_id
     , last_name
     , first_name
  FROM HR.employees
WHERE employee_id = 110
ORDER BY last_name ASC, first_name ASC;
```

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME |
|---|---|---|---|
| 1 | 110 | Chen | John |

11. Modify the commission_pct of all employees to 0 whose manager id is equal to 101,102,103 and 104.

```
UPDATE hr.employees
   SET COMMISSION_PCT = 0
WHERE MANAGER_ID IN (101,102,103,104);
```

Output:



12. Modify the salary of all employees to 20,000 whose job_ids are IT_PROG and commission_pct is NULL.

```
UPDATE hr.employees
   SET salary = 20000
 WHERE job_id = 'IT_PROG' AND commission_pct IS NULL;
```
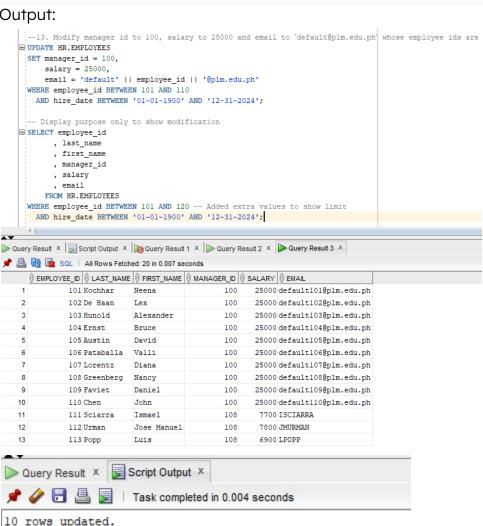
0 rows updated.

13. Modify  manager id to 100, salary to 25000 and email to 'default@plm.edu.ph' whose employee ids are 101 to 110 and their hire dates are between Jan, 01, 1900 to Dec. 31, 2024.
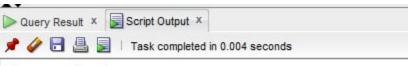
```
UPDATE hr.employees
   SET manager_id = 100,
    salary = 25000,
    email = 'default' || employee_id || '@plm.edu.ph'
 WHERE employee_id BETWEEN 101 AND 110
   AND hire_date    BETWEEN '01-01-1900' AND '12-31-2024';
```

Output:

```
--13. Modify manager id to 100, salary to 25000 and email to 'default@plm.edu.ph' whose employee ids are
UPDATE HR.EMPLOYEES
SET manager_id = 100,
    salary = 25000,
    email = 'default' || employee_id || '@plm.edu.ph'
WHERE employee_id BETWEEN 101 AND 110
  AND hire_date BETWEEN '01-01-1900' AND '12-31-2024';

-- Display purpose only to show modification
SELECT employee_id
     , last_name
     , first_name
     , manager_id
     , salary
     , email
    FROM HR.EMPLOYEES
WHERE employee_id BETWEEN 101 AND 120 -- Added extra values to show limit
  AND hire_date BETWEEN '01-01-1900' AND '12-31-2024';
```

Query Result ×  | Script Output ×  | Query Result 1 ×  | Query Result 2 ×  | Query Result 3 ×

SQL | All Rows Fetched: 20 in 0.007 seconds

| | EMPLOYEE_ID | LAST_NAME | FIRST_NAME | MANAGER_ID | SALARY | EMAIL |
|---|---|---|---|---|---|---|
| 1 | 101 | Kochhar | Neena | 100 | 25000 | default101@plm.edu.ph |
| 2 | 102 | De Haan | Lex | 100 | 25000 | default102@plm.edu.ph |
| 3 | 103 | Hunold | Alexander | 100 | 25000 | default103@plm.edu.ph |
| 4 | 104 | Ernst | Bruce | 100 | 25000 | default104@plm.edu.ph |
| 5 | 105 | Austin | David | 100 | 25000 | default105@plm.edu.ph |
| 6 | 106 | Pataballa | Valli | 100 | 25000 | default106@plm.edu.ph |
| 7 | 107 | Lorentz | Diana | 100 | 25000 | default107@plm.edu.ph |
| 8 | 108 | Greenberg | Nancy | 100 | 25000 | default108@plm.edu.ph |
| 9 | 109 | Faviet | Daniel | 100 | 25000 | default109@plm.edu.ph |
| 10 | 110 | Chen | John | 100 | 25000 | default110@plm.edu.ph |
| 11 | 111 | Sciarra | Ismael | 108 | 7700 | ISCIARRA |
| 12 | 112 | Urman | Jose Manuel | 108 | 7800 | JMURMAN |
| 13 | 113 | Popp | Luis | 108 | 6900 | LPOPP |

Query Result ×  | Script Output ×

Task completed in 0.004 seconds

10 rows updated.

14. Delete all employee records whose manager ids are 120,121,122 and123 or job_ids are 'AD_PRES'.

```sql
UPDATE hr.departments
   SET manager_id = NULL
 WHERE department_name = 'Executive';

UPDATE hr.employees
   SET manager_id = NULL
 WHERE manager_id = 100;

DELETE FROM hr.employees
 WHERE manager_id IN (120, 121, 122, 123) OR job_id = 'AD_PRES';
```

```
1 row updated.

22 rows updated.

33 rows deleted.
```

15. Delete all employee records whose salaries are 0 to 5000 and department ids are 10,20,50,70 and 90.

```sql
UPDATE hr.departments
   SET manager_id = NULL
 WHERE manager_id IN (
       SELECT employee_id FROM HR.EMPLOYEES
        WHERE salary BETWEEN 0 AND 5000
          AND department_id IN (10, 20, 50, 70, 90)
 );

DELETE FROM hr.job_history
 WHERE employee_id IN (
       SELECT employee_id
         FROM hr.employees
        WHERE salary >= 0 AND salary <= 5000
          AND department_id IN (10, 20, 50, 70, 90)
 );
```

```
DELETE FROM hr.employees
 WHERE salary >= 0 AND salary <= 5000
   AND department_id IN (10, 20, 50, 70, 90);
```

```
-- 15. Delete all employee records whose salaries are 0 to 5000 and department ids are 10,20,50,70 and 90.

UPDATE hr.departments
   SET manager_id = NULL
 WHERE manager_id IN (
       SELECT employee_id FROM HR.EMPLOYEES
       WHERE salary BETWEEN 0 AND 5000
         AND department_id IN (10, 20, 50, 70, 90)
 );

DELETE FROM hr.job_history
 WHERE employee_id IN (
       SELECT employee_id
         FROM hr.employees
        WHERE salary >= 0 AND salary <= 5000
          AND department_id IN (10, 20, 50, 70, 90)
);

DELETE FROM hr.employees
 WHERE salary >= 0 AND salary <= 5000
   AND department_id IN (10, 20, 50, 70, 90);
```

```
1 row updated.

2 rows deleted.

9 rows deleted.
```

16. Delete all records in JOBS table whose job ids have the string 'AD' anywhere on it. (Provide the error message and explain.)

```
DELETE FROM jobs
 WHERE job_id LIKE '%AD%';
```

```
Error starting at line : 82 in command -
DELETE FROM jobs
 WHERE job_id LIKE '%AD%'
Error report -
SQL Error: ORA-02292: integrity constraint (HR.EMP_JOB_FK) violated - child record found
02292. 00000 -  "integrity constraint (%s.%s) violated - child record found"
*Cause:    attempted to delete a parent key value that had a foreign
           dependency.
*Action:   delete dependencies first then parent or disable constraint.
```

**Explanation:**

This means that there is a foreign key constraint named
`HR.EMP_JOB_FK` that prevents from deleting the specified records in
the `jobs` table. This error happens since one or more employee
records in the `EMPLOYEES` table references the job ID that matches
the `'%AD%'` wildcard.

17. Delete all employee records whose employee ids are not equal to
131,132,133,134 and 150.

```sql
UPDATE hr.departments
   SET manager_id = NULL
 WHERE manager_id IN (
       SELECT employee_id FROM hr.employees
       WHERE employee_id NOT IN (131, 132, 133, 134, 150)
 );

DELETE FROM hr.job_history
 WHERE employee_id IN (
       SELECT employee_id FROM hr.employees
       WHERE employee_id NOT IN (131, 132, 133, 134, 150)
);

DELETE FROM hr.employees
 WHERE employee_id NOT IN (131, 132, 133, 134, 150);
```

```sql
UPDATE hr.departments
   SET manager_id = NULL
 WHERE manager_id IN (
    SELECT employee_id FROM HR.EMPLOYEES
     WHERE employee_id NOT IN (131, 132, 133, 134, 150)
 );

DELETE FROM hr.job_history
 WHERE employee_id IN (
   SELECT employee_id FROM HR.EMPLOYEES
    WHERE employee_id NOT IN (131, 132, 133, 134, 150)
 );

DELETE FROM hr.employees
 WHERE employee_id NOT IN (131, 132, 133, 134, 150);
```

```
9 rows updated.

8 rows deleted.

64 rows deleted.
```

18. Rollback everything you made in #s 11 to 17.

```
ROLLBACK;
```

```
Rollback complete.
```

19.
```sql
UPDATE hr.employees
   SET commission_pct = 0
 WHERE commission_pct IS NULL;

SELECT *
  FROM hr.employees
 WHERE commission_pct IS NULL;

ROLLBACK;

SELECT *
  FROM hr.employees
 WHERE commission_pct IS NULL;
```

Explain what happened.

**EXPLANATION:**

```sql
UPDATE hr.employees
   SET commission_pct = 0
 WHERE commission_pct IS NULL;
```

First thing that occurred is that the code above modifies the **comission_pct** of employees table, and it is being set to 0

```sql
SELECT *
    FROM hr.employees
 WHERE commission_pct IS NULL;
```

Second thing that happened is that it displays and checks for remaining NULL values

```sql
ROLLBACK;
```

Third thing that happened here it used the function ROLLBACK wherein it Rollbacked the update to restore the original NULL values of comission_pct

```sql
SELECT *
    FROM hr.employees
 WHERE commission_pct IS NULL;
```

Finally, it then checks again to confirm that some NULL values still exist then displays.

20.

```sql
UPDATE hr.employees
   SET commission_pct = 0
 WHERE commission_pct IS NULL;

SELECT *
  FROM hr.employees
 WHERE commission_pct IS NULL;

COMMIT;

SELECT *
  FROM hr.employees
 WHERE commission_pct IS NULL;
```

Explain what happened.

**Explanation:**

The things that happened here are:

```sql
UPDATE hr.employees
```

```
SET commission_pct = 0
WHERE commission_pct IS NULL;
```

First, the update command changed all commission_pct equal to 0 if it is NULL in the hr.employees table.

```
SELECT *
FROM hr.employees
WHERE commission_pct IS NULL;
```

Second, Retrieved all rows from the hr.employees table where commission_pct is still NULL. The result here is there are no rows.

| EMPLOYE... | FIRST_NA... | LAST_NAME | EMAIL | PHONE_N... | HIRE_DATE | JOB_ID | SALARY | COMMISS... | MANAGER... | DEPARTM... |
|---|---|---|---|---|---|---|---|---|---|---|

```
COMMIT;
```

Third, The COMMIT command is used to save all the changes made during the current transaction permanently in the database.

```
SELECT *
FROM hr.employees
WHERE commission_pct IS NULL;
```

Lastly, Retrieve again all rows from the hr.employees table where commission_pct is still NULL. Again, The result here is there are no rows.

| EMPLOYE... | FIRST_NA... | LAST_NAME | EMAIL | PHONE_N... | HIRE_DATE | JOB_ID | SALARY | COMMISS... | MANAGER... | DEPARTM... |
|---|---|---|---|---|---|---|---|---|---|---|