Musawakh Andrew Nzama

SQL Join Exercises

① Inner Join

```
Select
    s.Student_id,
    s.Student_name,
    g.grade
From Students s
Inner Join grades g
  on s.Student_id = g.Student_id;
```

Student_id	Student_name	Grade
2	Bob	B
3	Charlie	A

② Left Join

```
Select e.emp_id, e.emp_name, d.dept_name
From employees e
Left join departments d
on e.emp_id = d.emp_id
```

Emp_id	Emp_name	Dept_name
1	John	Null
2	Lisa	HR
3	Mike	Null

③ Full Outer Join

```
Select
  p.product_id
  p.product_name
  S.quantity
From products p
Full Outer JOIN  Sales S
  On p.product_id = S.product_id;
```

Product_id	Product_Name	Quantity
1	Laptop	Null
2	Mouse	50
3	Keyboard	Null
4	Null	30

④ LEFT JOIN AND CASE

```
Select O.order_id, O.customer_id, O.amount, C.customer_na
CASE
   When C.customer_id is null then 'New Customer'
   Else 'returning customer'
    END AS customer_type
    From Orders O
      LEFT JOIN Customers C
      ON O.customer_id = C.customer_id;
```

Order_id	Customer_Id	Amount	CustomerName	C Type
1	101	500	Paul	Returning C.
2	102	300	Sarah	Returning C.
3	105	0	Null	New Custome

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~~⑤ LEFT JOIN AND CASE~~

⑤ LEFT JOIN ; GROUP BY AND SUM

```
Select
    r.region_id,
    r.region_name,
COALESCE(Sum(s.amount), 0) AS total_Sales
From regions r
LEFT Join Sale s
On r.region_id = s.region_id
Group by r.region_id, r.region_name;
```

Region_id	Region_name	total_Sales
1	North	2000
2	South	35003
3	East	0

⑥ LEFT JOIN AND CASE

```
Select s.student_id, s.name, a.days_present,
CASE
  When a.days_present >= 15 THEN 'Excellent'
  When a.days_present Between 10 AND 14 then 'Needs Improvement'
  ELse 'Poor Attendance'
  END AS Attendance_Status
  From students s
  Left Join attendance a
  On s.student_id = a.student_id;
```

Student_id	Name	days_Present	Attendance_Status
1	Alice	18	Excellent
2	Bob	5	Poor Attendance
3	Charlie	Null	Pool Attendance

⑦ Inner Join, count and Group by

```
Select
    p.project_id
    p.Name,
    Count (t.task_id) AS task_count
    From projects p.
Inner join task t
 On p.project_id = t.project_id
 Group by p.project_id, p.name;
```

Project_id	Name	Task_count
1	AI Chatbot	2
2	Website	1

⑧ Full Outer Join, CASE AND WHERE

```
Select
  Coalesce (O.cust_id, r.cust_id) AS cust_id,
  O.order_total
  r.return_total
  CASE
  When r.return_total is not NULL THEN 'Returned'
  Else 'No Return'
  END AS return_status
  From orders O
  Full Outer Join returns r
Where coalesce (O.order_total,0) >=180;
```

Cust_id
12
13

⑨ LEFT JOI

```
Select
  U. User_
  U. Name
  Count (
  FROM U
  LEFT join
   On U-
  Group by
  Order By
```

User_id
2
3
1

⑩ Left

```
Select t
  t
CASE
  Wh
  Else
  END
  FRO
  Inn
  ore
```

Cust_id	Order_total	Return_total	Return_Status
12	250	NULL	No Return
13	180	NULL	No Return

⑨ LEFT JOIN, count and order by

```
Select
  U. User_id
  U. Name,
  Count (l.login_date) as login_count
  From Users U
  LEFT Join Logins l
  on U.user_id = l.user_id
  Group by U.user_id, U.name
  Order by login_count DESC;
```

User_id	Name	Login-count
2	Gloria	2
3	Steve	1
1	Nelson	0

⑩ Left Join, CASE and Order by

```
Select t.teacher_id,
       t.teacher_name,
CASE
    When S.subject_name is null THE 'No Subject Assigned'
    Else S.subject_name
    END AS subject_name
    From teachers S
     ~~DE~~Left join subject s
    on t.teacherid = S.teacher_id
    orderby t.teacher_name ASC;
```

Teacher_id	Teacher_Name	Subject-Name
1	Mr. Hlongwane	Math
1	Mr. Hlongwane	Science
3	Mr. Dlamini	No Subject Assigned
2	Ms. Ndaba	No Subject Assigned