

Exercise 4 Bolinda Thando Mhlanya

Question 1 - Inner Join

```
SELECT student-id,  
       student-name,  
       grade
```

```
FROM students
```

```
INNER JOIN grade ON student-id = studentid
```

Student-id	Student-name	grade
2	Bob	B
3	Charlie	A

2. Left Join

```
SELECT emp-id,  
       emp-name,  
       dept-name
```

```
FROM employees
```

```
LEFT JOIN department  
ON emp-id = emp-id
```

emp-id	emp-name	dept-name
1	John	NULL
2	Lisa	HR
3	Mike	NULL

Exercise 3

```
SELECT product_id,  
       product_name,  
       quantity  
FROM products  
FULL OUTER JOIN sales  
ON product_id = product_id ;
```

product_id	product_name	quantity
1	Laptop	NULL
2	Mouse	50
3	Keyboard	NULL
4	NULL	30

Question 4

```
SELECT order_id,  
       customer_id,  
       amount,  
       Customer name,
```

```
CASE  
  WHEN customer_name IS NULL THEN 'New customer'  
  ELSE 'Returning customer'  
END AS customer_type
```

```
FROM orders
```

```
LEFT JOIN customers  
ON customer_id = customer_id
```

Order_id	customer_id	amount	customer_name	customer_type
1	101	500	Paul	Returning customer
2	102	300	Sarah	Returning customer
3	105	0	NULL	New customer

Question 5

```
SELECT region-id,  
       region-name,  
       SUM (amount) AS total sales  
  
FROM regions  
  
LEFT JOIN sales ON  
       region-id = region-id  
  
GROUP BY region-id,  
       region-name;
```

region-id	region-name	total sales
1	North	2000
2	South	3500
3	East	0

Question 6

```
SELECT student-id  
       name  
       days-present  
  
CASE WHEN days-present >= 15 THEN 'Excellent'  
      WHEN days-present >= 10 THEN 'Needs Improvement'  
      ELSE 'Poor Attendance'  
END AS attendance_status  
  
FROM students  
  
LEFT JOIN attendance ON student-id = student-id;
```

student-id	name	days-present	attendance_status
1	Alice	18	Excellent
2	Bob	5	Poor Attendance
3	Charlie	NULL	Poor Attendance

Question 7

```
SELECT project_id,  
       name,  
       COUNT (task_id) AS taskcount  
FROM projects  
INNER JOIN tasks ON  
       project_id = project_id  
GROUP BY project_id,  
       name;
```

Project-id	name	task-count
1	AI chatbot	2
2	website	1

Question 8

```
SELECT  
  COALESCE (cust_id, cust_id) AS cust_id,  
  order_total,  
  return_total,  
  CASE  
    WHEN return_total IS NOT NULL THEN 'Returned'  
    WHEN cust_id IS NOT NULL THEN 'No Return'  
    ELSE 'No order history'  
  END AS return_status
```

FROM orders

```
FULL OUTER JOIN return ON customer_id  
       cust_id = cust_id
```

```
WHERE order_total > 100 OR order_total IS NULL  
AND cust_id IS NOT NULL
```

Question 9

```
SELECT user_id,  
       name,  
       COUNT (user_id) AS login_count
```

```
FROM users
```

```
LEFT JOIN logins ON user_id = user_id
```

```
GROUP BY user_id
```

```
ORDER BY login_count DESC ;
```

user_id	name	login_count
2	Gilona	2
3	Steve	1
1	Nelso	0

Q10

```
SELECT teacher_id  
       teacher_name
```

```
CASE
```

```
WHEN subject_name IS NULL THEN 'No subject assigned'
```

```
ELSE subject_name
```

```
END AS subject_name_status
```

```
FROM teachers
```

```
LEFT JOIN subjects ON teacher_id = teacher_id
```

```
ORDER BY teacher_name ASC ;
```

teacher_id	teacher_name	subject_name_status
3	Mr Damini	No subject assigned
1	Mr Hongwane	Math
4	Mr Hongwane	Science
2	Ms Ndaba	No subject assigned