

Exercise 4: SQL join

Question 1

```

SELECT student_id,
       student_name,
       grade
FROM student AS A
INNER JOIN grades AS B
ON A.student_id = B.student_id;
    
```

student_id	student_name	grade
2	Bob	B
3	charlie	A

Question 2

```

SELECT emp_id,
       emp_name,
       dept_name
FROM employee AS A
LEFT JOIN department AS B
ON A.emp_id = B.emp_id;
    
```

emp_id	emp_name	dept_name
1	John	NULL
2	Lisa	HR
3	Mike	NULL

Question 3.

SELECT product_id,
 product_name,
 quantity
 FROM products A
 FULL OUTER JOIN sales B
 ON A.product_id = B.product_id;

Product_id	Product_name	quantity
1	Laptop	NULL
2	Mouse	80
3	Keyboard	NULL
4	NULL	30

* Question 4

SELECT order_id,
 customer_id,
 amount,
 customer_name
 CASE
 WHEN B.customer_id IS NOT NULL THEN
 'Returning Customer'
 ELSE 'New Customer'
 END AS customer_type
 LEFT JOIN orders A
 FROM orders A
 LEFT JOIN customers B
 ON A.customer_id = B.customer_id;

order_id	customer_id	amount	customer_name	New_customer
1	101	500	Paul	Returning
2	102	300	Sarah	Returning
3	105	0	NULL	New

Question 5

```

SELECT region_id,
       region_name,
       SUM(amount) AS total_sales
FROM sales AS A
LEFT JOIN regions AS B
ON A.region_id = B.region_id
GROUP BY region_id, region_name
    
```

region_id	Region name	total sales
1	North	2000
2	South	3500
4	NULL	NULL

⇒ Is region_id 4 not supposed to be null?
since it is from the left table.

* Question 6

```

SELECT student_id,
       name,
       days - prevsat
    
```

CASE

```

WHEN days - prevsat >= 15 THEN 'Exceeded'
WHEN days - prevsat BETWEEN 6 AND 14
THEN 'Need Improvement'
    
```

```

WHEN days - present <= 5 THEN 'Poor Attendance'
ELSE 'No record'
END AS attendance_Status
FROM Student A
LEFT JOIN attendance AS B
ON A.student_id = B.student_id;

```

student_id	name	days_preset	attendance_Status
1	Alice	18	Excellent
2	Bob	5	Poor
3	Charlie	null	No record

Question 7

```

SELECT project_id,
       name,
       COUNT(status) AS task_count
FROM project A
INNER JOIN tasks B
ON A.project_id = B.project_id
GROUP BY project_id, name;

```

Project-id	Name	task_count
1	AI chatbot	2
2	Website	1

Question 8

```
SELECT cust_id,
```

```
order_total,
```

```
return_total
```

CASE

WHEN return-total IS NOT NULL THEN
'Returned'

ELSE 'No Return'

END AS return-status

FROM orders AS A

FULL OUTER JOIN returns AS B

ON A.cust-id = B.cust-id

WHERE order-total > 100;

cust-id	order-total	return-total	return-status
11	120	20	return
12	250	NULL	No return
13	180	NULL	No return
14	NULL	100	No return

What about the 14? The memo does not include the 14.

Question 9

SELECT user-id,
name,
COUNT(login-date) AS login-count
FROM users AS A
LEFT JOIN login AS B
ON A.user-id = B.user-id
ORDER BY login-count DESC;

User_id	name	login_count
2	Alonzo	2,06,43
3	Steve	1
1	Nelson	0

Question 10

SELECT teacher_id,
 teacher_name,
 COALESCE(subject_name, 'No subject
 Assigned') AS subject_name
 FROM teacher TO A
 LEFT JOIN subject TO B
 ON A.teacher_id = B.teacher_id
 ORDER BY teacher_name ASC;

teacher_id	teacher_name	subject_name
3	Mr. Diomini	No subject Assigned
1	Mr. Hungwane	Math
1	Mr. Hungwane	Science
2	Ms. Nelson	No subject Assigned