Test Data:

1. **What is the email address of the employee who is the Sales Manager?**

   SQL command:
   SELECT Email_Address
   FROM employees
   WHERE Job_Title = 'Sales Manager';

   Result:
   alice@example.com
   abcl@example.com

2. **Which employee in the company works in the Product Development department?**

   SQL command:
   SELECT Name
   FROM employees
   WHERE Department = 'Product Development';

   Result:
   Na Li   na.li@example.com

3. **What was the sales revenue of 'Wei Zhang' for the week starting on '2024-08-28'?**

4. **Who are the employees working in the 'Finance' department?**

   SQL command:
   SELECT Name
   FROM employees
   WHERE Department = 'Finance';

   Result:
   David Lee

5. **Retrieve the total number of meetings attended by 'Na Li' in her weekly updates.**

   SQL command:
   SELECT SUM(Num_Meets) AS Total_Meetings
   FROM employee_weeks
   WHERE Employee_ID = (
      SELECT Employee_ID
      FROM employees
      WHERE Name = 'Na Li'
   );

   Result:
   39

6. **Which employees worked more than 40 hours during week 1?**

   SQL command:
   SELECT e.Name, e.Email_Address, ew.Hours_Worked
   FROM employee_weeks ew
   JOIN employees e ON ew.Employee_ID = e.Employee_ID
   WHERE ew.Week_Num = 1 AND ew.Hours_Worked > 40;

   Result:

7. **How many employees does the company have in total?**

   SQL command:
   SELECT COUNT(*) AS Total_Employees
   FROM employees;

   Result:
   10

8. **What is the average hours worked by all employees during week 2?**

   SQL command:
   SELECT AVG(Hours_Worked) AS Avg_Hours_Week_2
   FROM employee_weeks
   WHERE Week_Num = 2;

   Result:
   37.9000

9. **How much total sales revenue has the Sales department generated to date?**

   SQL command:
   SELECT SUM(ew.Total_Sales) AS Total_Sales_Revenue
   FROM employee_weeks ew
   JOIN employees e ON ew.Employee_ID = e.Employee_ID
   WHERE e.Department = 'Sales';

   Result:
   229006.50

10. **What is the total sales revenue generated by the company during week 1?**

    SQL command:
    SELECT SUM(Total_Sales) AS Total_Company_Sales_Week_1
    FROM employee_weeks
    WHERE Week_Num = 1;

    Result:
    55000.50

11. **Who worked the most hours during the first week of September 2024?**

12. **Which employee attended the most meetings during week 2?**

    SQL command:
    SELECT e.Name, e.Email_Address, ew.Num_Meets
    FROM employee_weeks ew
    JOIN employees e ON ew.Employee_ID = e.Employee_ID
    WHERE ew.Week_Num = 2
    ORDER BY ew.Num_Meets DESC

    Result:
    Na Li
    Emily Chen
    Carol Bob
    Wei Zhang
    Frank Wilson
    Tao Huang
    Grace Taylor
    David Lee
    Alice Name
    Bob Bob

16. List all employees who work in the IT department within the company.

SQL command:
SELECT Name
FROM employees
WHERE Department = 'IT';

Result:

17. Compare the hours worked by 'Wei Zhang' and 'Tao Huang' during week 1.

SQL command:
SELECT e.Name, ew.Hours_Worked
FROM employees e
JOIN employee_weeks ew ON e.Employee_ID = ew.Employee_ID
WHERE ew.Week_Num = 1
AND e.Name IN ('Wei Zhang', 'Tao Huang');

Result:
Tao Huang   35
Wei Zhang   35

18. Who are the top 3 employees by total hours worked during the last 4 weeks?
Rephrase: Who are the top 3 employees by total hours worked during the weeks 6-10

SQL command:
SELECT
    e.Name,
    SUM(ew.Hours_Worked) AS Total_Hours
FROM employee_weeks ew
JOIN employees e ON ew.Employee_ID = e.Employee_ID
WHERE ew.Week_Num BETWEEN 6 AND 10
GROUP BY e.Employee_ID, e.Name

```
ORDER BY Total_Hours DESC
LIMIT 3;
```

Result:

19. Who achieved the highest sales revenue in a single week, and when?
Rephrase: Who achieved the highest revenue in <mark>sales</mark> department in a single week, and when?

SQL command:
```
 SELECT
    e.Name,
    ew.Week_Num,
    ew.Total_Sales
FROM employee_weeks ew
JOIN employees e ON ew.Employee_ID = e.Employee_ID
WHERE e.Department = 'Sales'
ORDER BY ew.Total_Sales DESC
LIMIT 1;
```

Result:
Alice Name   6   18000.75

20. What is the total number of hours worked and average sales revenue for employees in the Business Development department?

SQL command:
```
SELECT
    SUM(ew.Hours_Worked) AS Total_Hours_Worked,
    AVG(ew.Total_Sales) AS Average_Sales_Revenue
FROM employee_weeks ew
JOIN employees e ON ew.Employee_ID = e.Employee_ID
WHERE e.Department = 'Business Development';
```

Result:
813   10100.300000

Benchmark 1:
Filtered Training Data:

1: What is the email address of the employee who is the Sales Manager?
SELECT Email_Address FROM employees WHERE Job_Title = 'Sales Manager';
2: Which employee in the company works in the Product Development department?
SELECT * FROM employees WHERE Department = 'Product Development';
3: Who are the employees working in the 'Finance' department?
SELECT * FROM employees WHERE Department = 'Finance';
4: Retrieve the total number of meetings attended by 'Na Li' in her weekly updates?
SELECT SUM(Num_Meets) FROM employee_weeks WHERE Employee_ID = (SELECT Employee_ID FROM employees WHERE Name = 'Na Li');
5: Which employees worked more than 40 hours during week 1?
SELECT e.Name, e.Job_Title, ew.Hours_Worked FROM employees e JOIN employee_weeks ew ON e.Employee_ID = ew.Employee_ID WHERE ew.Week_Num = 1 AND ew.Hours_Worked > 40;
6: How many employees does the company have in total?
SELECT COUNT(*) FROM employees;
7: What is the average hours worked by all employees during week 2?
SELECT AVG(Hours_Worked) FROM employee_weeks WHERE Week_Num = 2;
8: How much total sales revenue has the Sales department generated to date?
SELECT SUM(Total_Sales) FROM employee_weeks ew JOIN employees e ON ew.Employee_ID = e.Employee_ID WHERE e.Department = 'Sales';
9: What is the total sales revenue generated by the company during week 1?
SELECT SUM(Total_Sales) AS Total_Sales_Revenue FROM employee_weeks WHERE Week_Num = 1;
10: Which employee attended the most meetings during week 2?
SELECT Employee_ID FROM employee_weeks WHERE Week_Num = 2 ORDER BY Num_Meets DESC LIMIT 1;
11: List all employees who work in the IT department within the company?
SELECT * FROM employees WHERE Department = 'IT';
12: Compare the hours worked by 'Wei Zhang' and 'Tao Huang' during week 1?
SELECT e.Name, ew.Hours_Worked FROM employees e JOIN employee_weeks ew ON e.Employee_ID = ew.Employee_ID WHERE ew.Week_Num = 1 AND e.Name IN ('Wei Zhang', 'Tao Huang');
13: What is the total number of hours worked and average sales revenue for employees in the Business Development department?
SELECT SUM(hw.Hours_Worked) AS Total_Hours_Worked, AVG(hw.Total_Sales) AS Average_Sales_Revenue FROM employees e JOIN employee_weeks hw ON e.Employee_ID = hw.Employee_ID WHERE e.Department = 'Business Development';

Benchmark 2:
Unfiltered Training Data:

1: What is the email address of the employee who is the Sales Manager?
SELECT Email_Address FROM employees WHERE Job_Title = 'Sales Manager';
2: Which employee in the company works in the Product Development department?
SELECT * FROM employees WHERE Department = 'Product Development';
3: What was the sales revenue of 'Wei Zhang' for the week starting on '2024-08-28'?
**SELECT SUM(Total_Sales) FROM employee_weeks WHERE Employee_ID = (SELECT
Employee_ID FROM employees WHERE Name = 'Wei Zhang') AND Week_Num = (SELECT
Week_Num FROM employee_weeks WHERE Employee_ID = (SELECT Employee_ID
FROM employees WHERE Name = 'Wei Zhang') AND Week_Start_Date = '2024-08-28');**
4: Who are the employees working in the 'Finance' department?
SELECT * FROM employees WHERE Department = 'Finance';
5: Retrieve the total number of meetings attended by 'Na Li' in her weekly updates?
SELECT SUM(Num_Meets) FROM employee_weeks WHERE Employee_ID = (SELECT
Employee_ID FROM employees WHERE Name = 'Na Li');
6: Which employees worked more than 40 hours during week 1?
SELECT e.Name, e.Employee_ID FROM employees e JOIN employee_weeks ew ON
e.Employee_ID = ew.Employee_ID WHERE ew.Week_Num = 1 AND ew.Hours_Worked > 40;
7: How many employees does the company have in total?
SELECT COUNT(*) FROM employees;
8: What is the average hours worked by all employees during week 2?
SELECT AVG(Hours_Worked) FROM employee_weeks WHERE Week_Num = 2;
9: How much total sales revenue has the Sales department generated to date?
SELECT SUM(Total_Sales) FROM employee_weeks INNER JOIN employees ON
employee_weeks.Employee_ID = employees.Employee_ID WHERE Department = 'Sales';
10: What is the total sales revenue generated by the company during week 1?
SELECT SUM(Total_Sales) FROM employee_weeks WHERE Week_Num = 1;
11: Who worked the most hours during the first week of September 2024?
**SELECT Employee_ID, Hours_Worked FROM employee_weeks WHERE Week_Num = 1
AND Year(Hire_Date) = 2024 ORDER BY Hours_Worked DESC LIMIT 1;**
12: Which employee attended the most meetings during week 2?
SELECT Employee_ID FROM employee_weeks WHERE Week_Num = 2 ORDER BY
Num_Meets DESC LIMIT 1;
13: Which employees in the company were hired during a time of industry recession?
SELECT * FROM employees WHERE Hire_Date BETWEEN '2008-12-01' AND '2009-06-30';
14: Who are the employees that faced challenges with customer retention, and what solutions
did they propose?
**SELECT e.Name, ew.Activities FROM employees e JOIN employee_weeks ew ON
e.Employee_ID = ew.Employee_ID WHERE ew.Activities LIKE '%customer retention%';**
15: Which employees work in roles that likely require data analysis or reporting skills (based on
job titles)?

SELECT * FROM employees WHERE Job_Title LIKE '%Analyst%' OR Job_Title LIKE '%Data%' OR Job_Title LIKE '%Reporting%' OR Job_Title LIKE '%Statistician%' OR Job_Title LIKE '%Research%';

16: List all employees who work in the IT department within the company?

SELECT * FROM employees WHERE Department = 'IT';

17: Compare the hours worked by 'Wei Zhang' and 'Tao Huang' during week 1?

SELECT e1.Name, ew1.Hours_Worked FROM employees e1 JOIN employee_weeks ew1 ON e1.Employee_ID = ew1.Employee_ID WHERE e1.Name IN ('Wei Zhang', 'Tao Huang') AND ew1.Week_Num = 1;

18: Who are the top 3 employees by total hours worked during the last 4 weeks?

SELECT Employee_ID, SUM(Hours_Worked) AS Total_Hours_Worked FROM employee_weeks WHERE Week_Num BETWEEN 7 AND 10 GROUP BY Employee_ID ORDER BY Total_Hours_Worked DESC LIMIT 3;

19: Who achieved the highest sales revenue in a single week, and when?

SELECT Employee_ID, Week_Num, Total_Sales FROM employee_weeks ORDER BY Total_Sales DESC LIMIT 1;

20: What is the total number of hours worked and average sales revenue for employees in the Business Development department?

SELECT SUM(ew.Hours_Worked) AS Total_Hours_Worked, AVG(ew.Total_Sales) AS Average_Sales_Revenue FROM employees e JOIN employee_weeks ew ON e.Employee_ID = ew.Employee_ID WHERE e.Department = 'Business Development';