**Assignment 10**

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Problems:

35: Modify the MODEL table to add the attribute and insert the values shown in the following table.

**Answer:**

ALTER TABLE MODEL

ADD COLUMN MOD\_WAIT\_CHG INT;

UPDATE MODEL

SET MOD\_WAIT\_CHG = 100

WHERE MOD\_CODE = 'C-90A';

UPDATE MODEL

SET MOD\_WAIT\_CHG = 50

WHERE MOD\_CODE = 'PA23-250';

UPDATE MODEL

SET MOD\_WAIT\_CHG = 75

WHERE MOD\_CODE = 'PA31-350';

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36: Write the queries to update the MOD\_WAIT\_CHG attribute values based on Problem 35.

**Answer:**

UPDATE MODEL

SET MOD\_WAIT\_CHG = 100

WHERE MOD\_CODE = 'C-90A';

UPDATE MODEL

SET MOD\_WAIT\_CHG = 50

WHERE MOD\_CODE = 'PA23-250';

UPDATE MODEL

SET MOD\_WAIT\_CHG = 75

WHERE MOD\_CODE = 'PA31-350';

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37. Modify the CHARTER table to add the attributes shown in the following table.

**Answer:**

ALTER TABLE CHARTER

ADD COLUMN CHAR\_WAIT\_CHG FLOAT(8),

ADD COLUMN CHAR\_FLT\_CHG\_HR FLOAT(8),

ADD COLUMN CHAR\_FLT\_CHG FLOAT(8),

ADD COLUMN CHAR\_TAX\_CHG FLOAT(8),

ADD COLUMN CHAR\_TOT\_CHG FLOAT(8),

ADD COLUMN CHAR\_PYMT FLOAT(8),

ADD COLUMN CHAR\_BALANCE FLOAT(8);

38. Write the sequence of commands required to update the CHAR\_WAIT\_CHG attribute values in the CHARTER table. (Hint: Use either an updatable view or a stored procedure.)

**Answer:**

UPDATE CHARTER

SET CHAR\_WAIT\_CHG = (

SELECT MOD\_WAIT\_CHG

FROM MODEL, AIRCRAFT

WHERE MODEL.MOD\_CODE = AIRCRAFT.MOD\_CODE

AND AIRCRAFT.AC\_NUMBER = CHARTER.AC\_NUMBER

) ;

**Table

Description automatically generated with low confidence**

39. Write the sequence of commands required to update the CHAR\_FLT\_CHG\_HR attribute values in the CHARTER table. (Hint: Use either an updatable view or a stored procedure.)

**Answer:**

UPDATE CHARTER

SET CHAR\_FLT\_CHG\_HR = (

SELECT MOD\_CHG\_MILE

FROM MODEL, AIRCRAFT

WHERE MODEL.MOD\_CODE = AIRCRAFT.MOD\_CODE

AND AIRCRAFT.AC\_NUMBER = CHARTER.AC\_NUMBER

) ;

**Table

Description automatically generated with low confidence**

40. Write the command required to update the CHAR\_FLT\_CHG attribute values in the CHARTER table.

**Answer:**

UPDATE CHARTER

SET CHAR\_FLT\_CHG = CHAR\_HOURS\_FLOWN \* CHAR\_FLT\_CHG\_HR;

**Table

Description automatically generated**

41. Write the command required to update the CHAR\_TAX\_CHG attribute values in the CHARTER table.

**Answer:**

UPDATE CHARTER

SET CHAR\_TAX\_CHG= CHAR\_FLT\_CHG \* (0.08);

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Description automatically generated**

42. Write the command required to update the CHAR\_TOT\_CHG attribute values in the CHARTER table.

**Answer:**

UPDATE CHARTER

SET CHAR\_TOT\_CHG= CHAR\_FLT\_CHG + CHAR\_TAX\_CHG;

**Table

Description automatically generated**

43. Modify the PILOT table to add the attribute shown in the following table.

**Answer:**

ALTER TABLE PILOT

ADD COLUMN PIL\_PIC\_HRS FLOAT(8);

**Graphical user interface

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**Five LeetCode Problems:**

1. Write a SQL query to find employees who earn the top three salaries in each of the department. For the above tables, your SQL query should return the following rows (order of rows does not matter).

**Answer:**

select

x.Name as Department,

a.Name as Employee,

a.Salary as Salary

from Employee a

join (select distinct DepartmentId, Salary from Employee) b

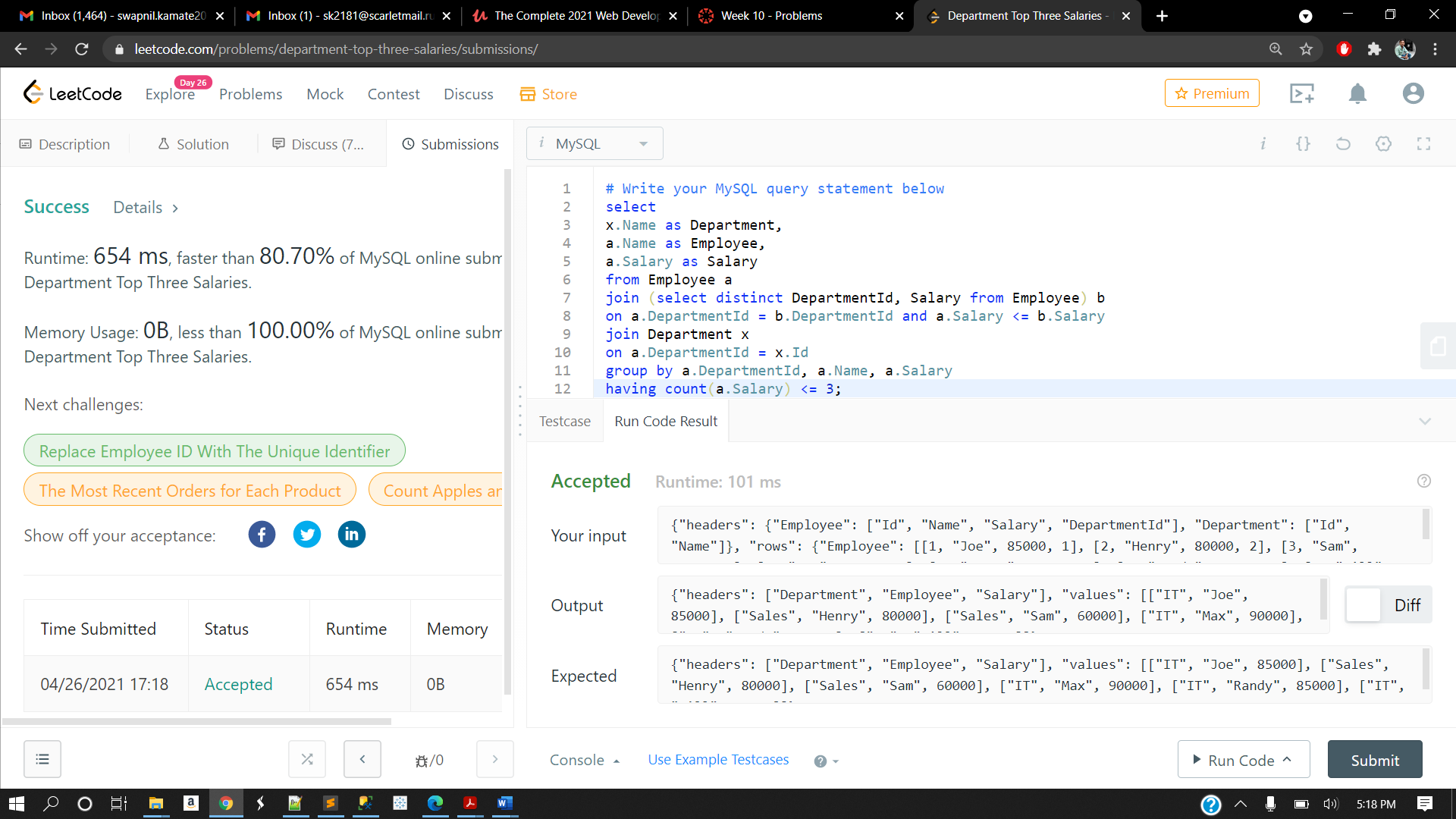
on a.DepartmentId = b.DepartmentId and a.Salary <= b.Salary

join Department x

on a.DepartmentId = x.Id

group by a.DepartmentId, a.Name, a.Salary

having count(a.Salary) <= 3;



1. Write a SQL solution to output big countries' name, population and area.

**Answer:**

SELECT

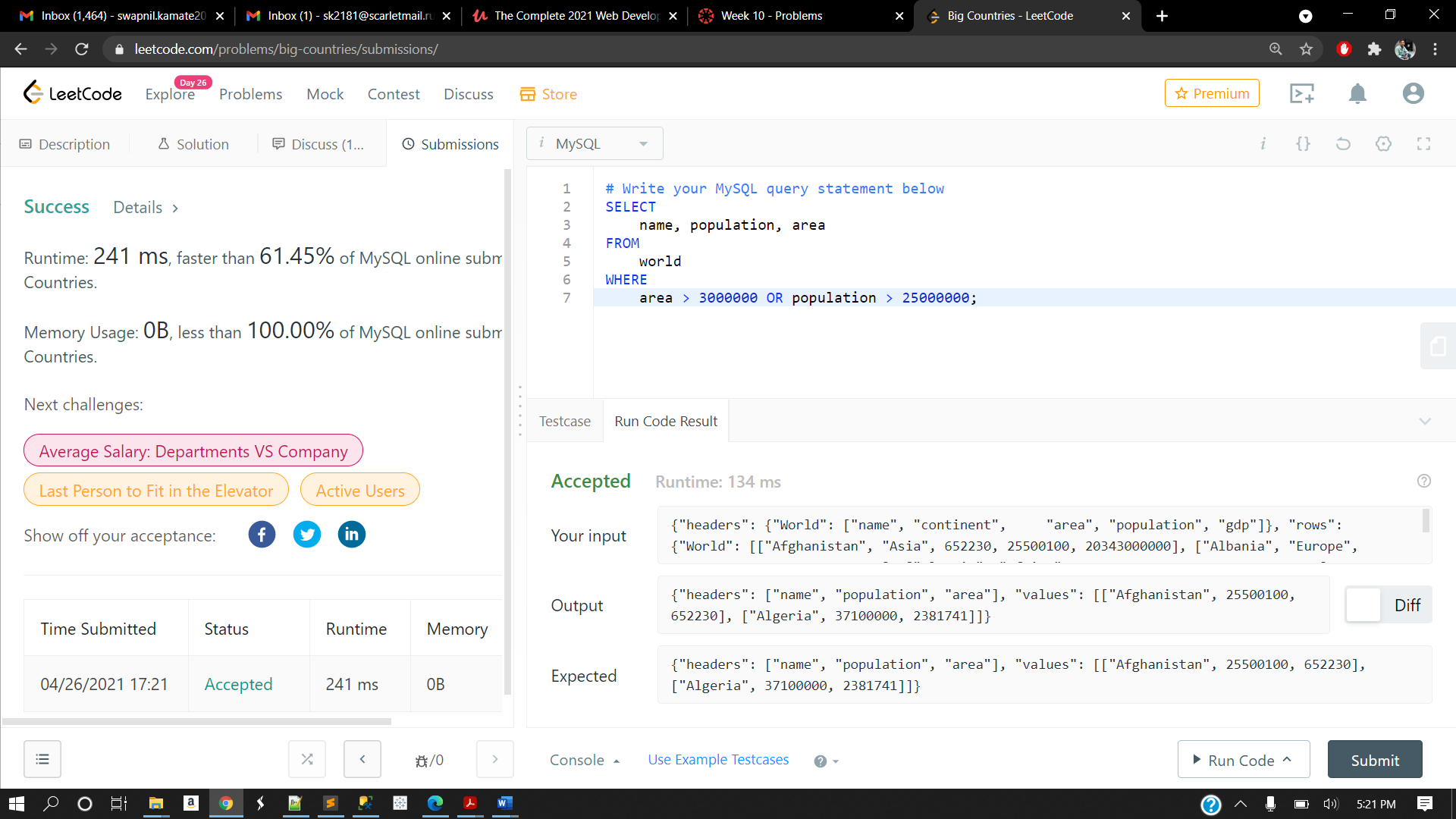
name, population, area

FROM

world

WHERE

area > 3000000 OR population > 25000000;



1. Mary is a teacher in a middle school and she has a table seat storing students' names and their corresponding seat ids. The column **id** is continuous increment. Mary wants to change seats for the adjacent students. Can you write a SQL query to output the result for Mary?

Answer:

SELECT s1.id - 1 as id, s1.student

FROM Seat s1

WHERE s1.id MOD 2 = 0

UNION

SELECT s2.id + 1 as id, s2.student

FROM Seat s2

WHERE s2.id MOD 2 = 1 AND s2.id != (SELECT MAX(id) FROM Seat)

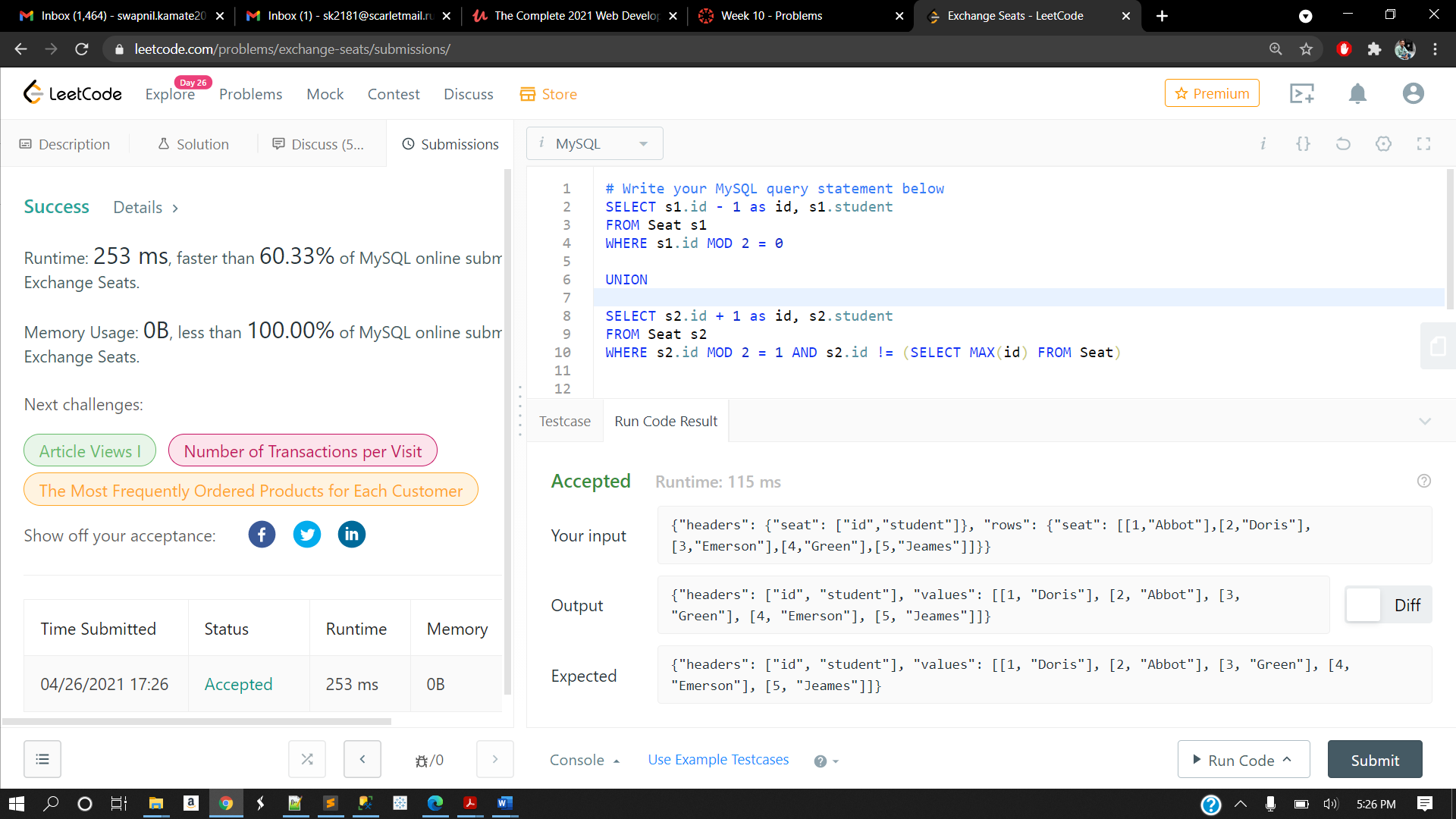
UNION

SELECT s3.id, s3.student

FROM Seat s3

WHERE s3.id MOD 2 = 1 AND s3.id = (SELECT MAX(id) FROM Seat)

ORDER BY id ASC;



**4)** X city opened a new cinema, many people would like to go to this cinema. The cinema also gives out a poster indicating the movies’ ratings and descriptions.

Please write a SQL query to output movies with an odd numbered ID and a description that is not 'boring'. Order the result by rating.

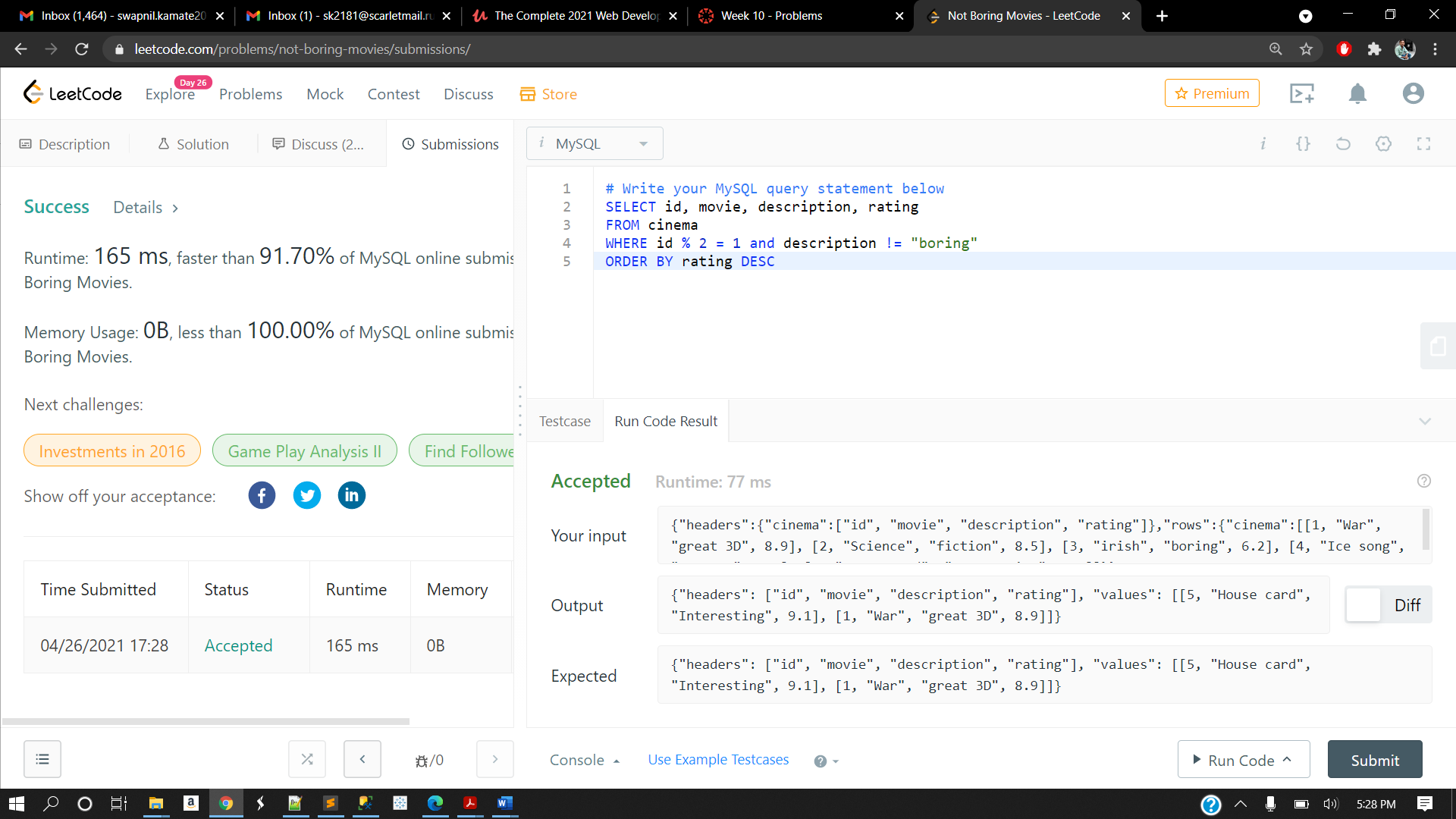
**Answer:**

SELECT id, movie, description, rating

FROM cinema

WHERE id % 2 = 1 and description != "boring"

ORDER BY rating DESC



5)

write a SQL query that finds out employees who earn more than their managers. For the above table, Joe is the only employee who earns more than his manager.

Answer:

select e.name as Employee

from Employee e

inner join Employee m

on e.managerId = m.id

where e.salary > m.salary

