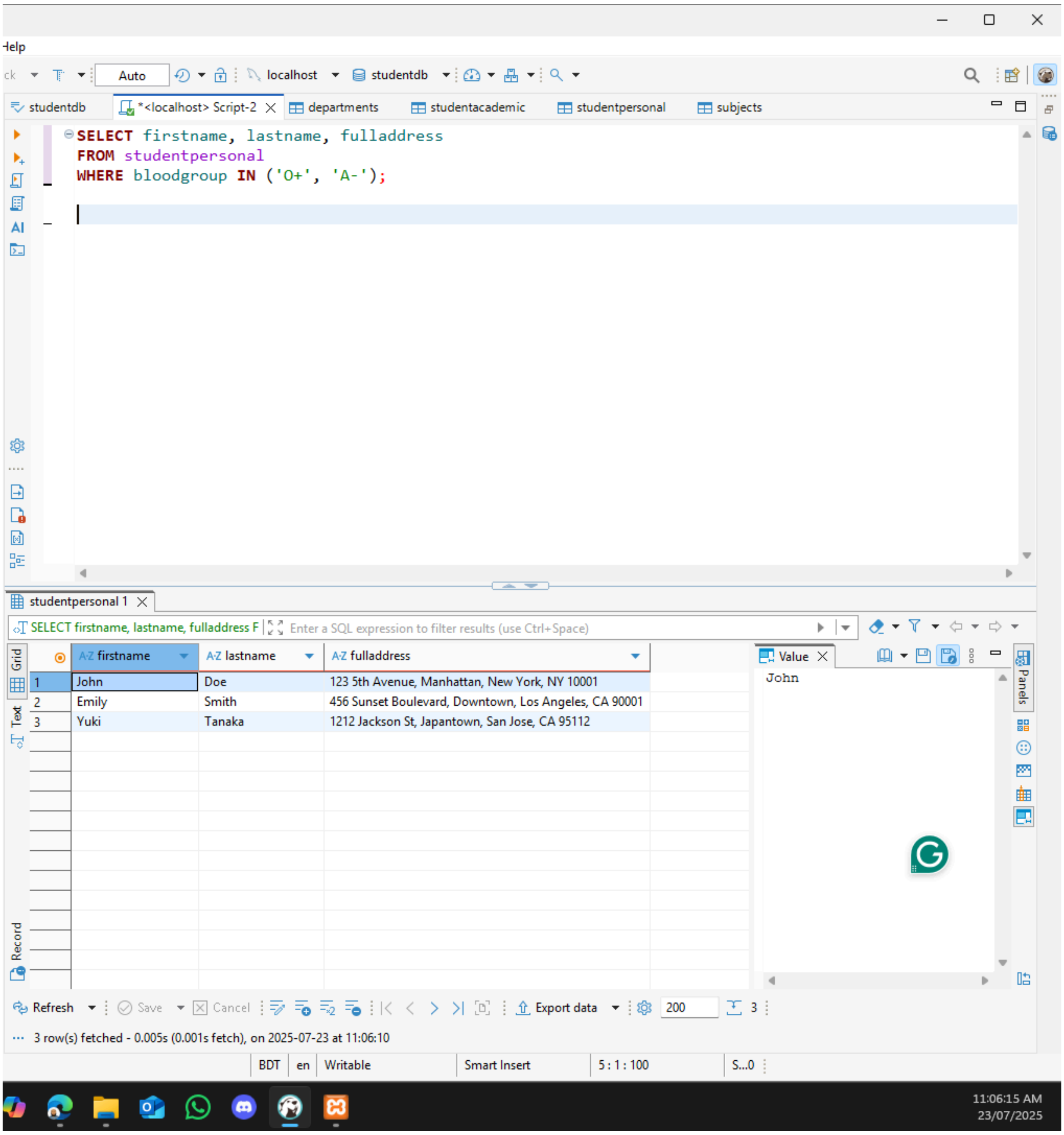
# Assignment on Database (MySQL)

1. **Write a query to find the students' first name, last name, phone number, and address for those who have the blood groups O+ and A-**

```
SELECT firstname, lastname, fulladdress
FROM studentpersonal
WHERE bloodgroup IN ('O+', 'A-');
```



```
SELECT firstname, lastname, fulladdress
FROM studentpersonal
WHERE bloodgroup IN ('O+', 'A-');
```

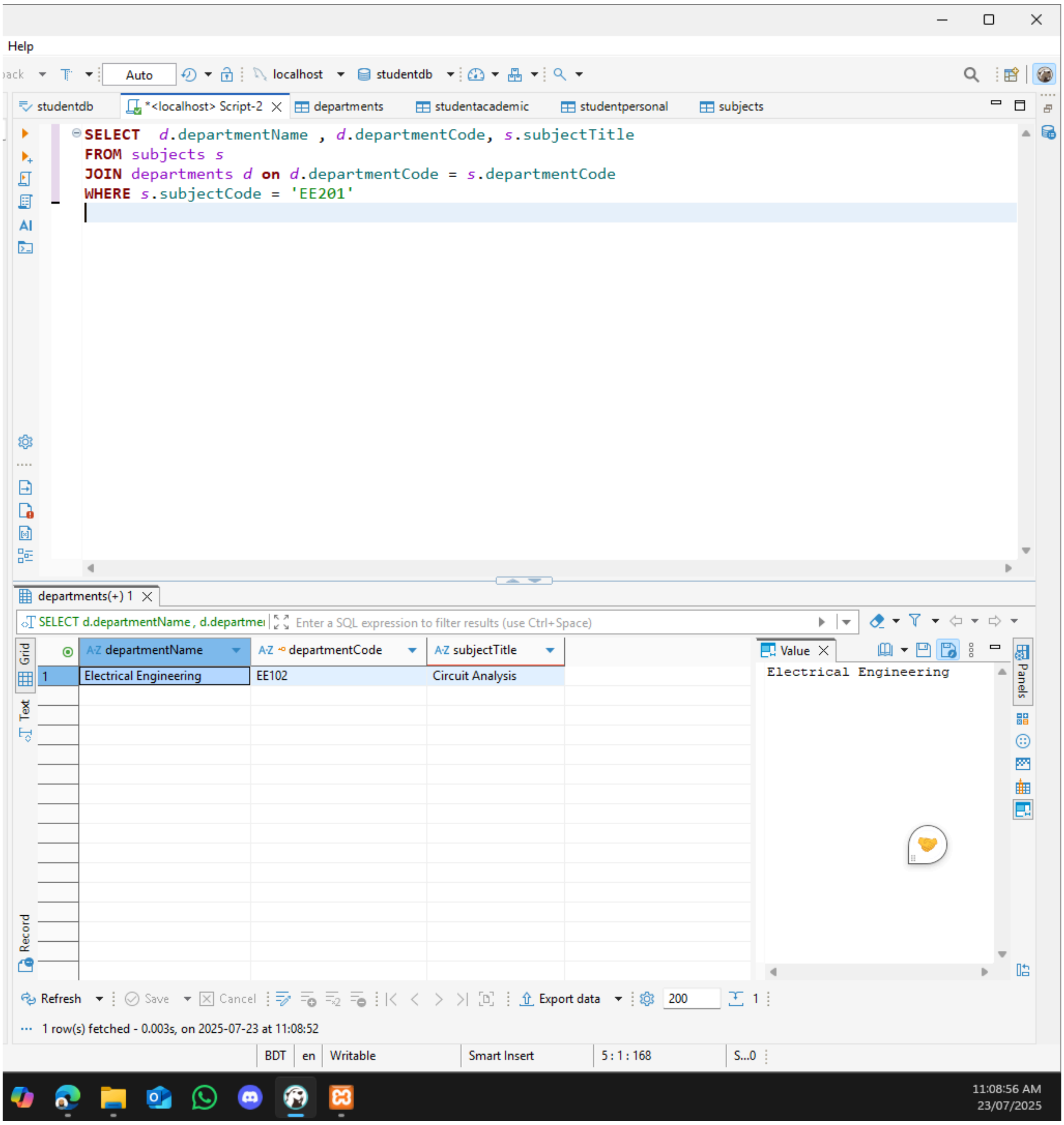
| | firstname | lastname | fulladdress |
|---|---|---|---|
| 1 | John | Doe | 123 5th Avenue, Manhattan, New York, NY 10001 |
| 2 | Emily | Smith | 456 Sunset Boulevard, Downtown, Los Angeles, CA 90001 |
| 3 | Yuki | Tanaka | 1212 Jackson St, Japantown, San Jose, CA 95112 |

Value: John

3 row(s) fetched - 0.005s (0.001s fetch), on 2025-07-23 at 11:06:10

2. **Write a query to find the department name, department code, and subject title for the subject with the subject code "EE201."**

```
SELECT  d.departmentName , d.departmentCode, s.subjectTitle
FROM subjects s
JOIN departments d on d.departmentCode = s.departmentCode
WHERE s.subjectCode = 'EE201'
```



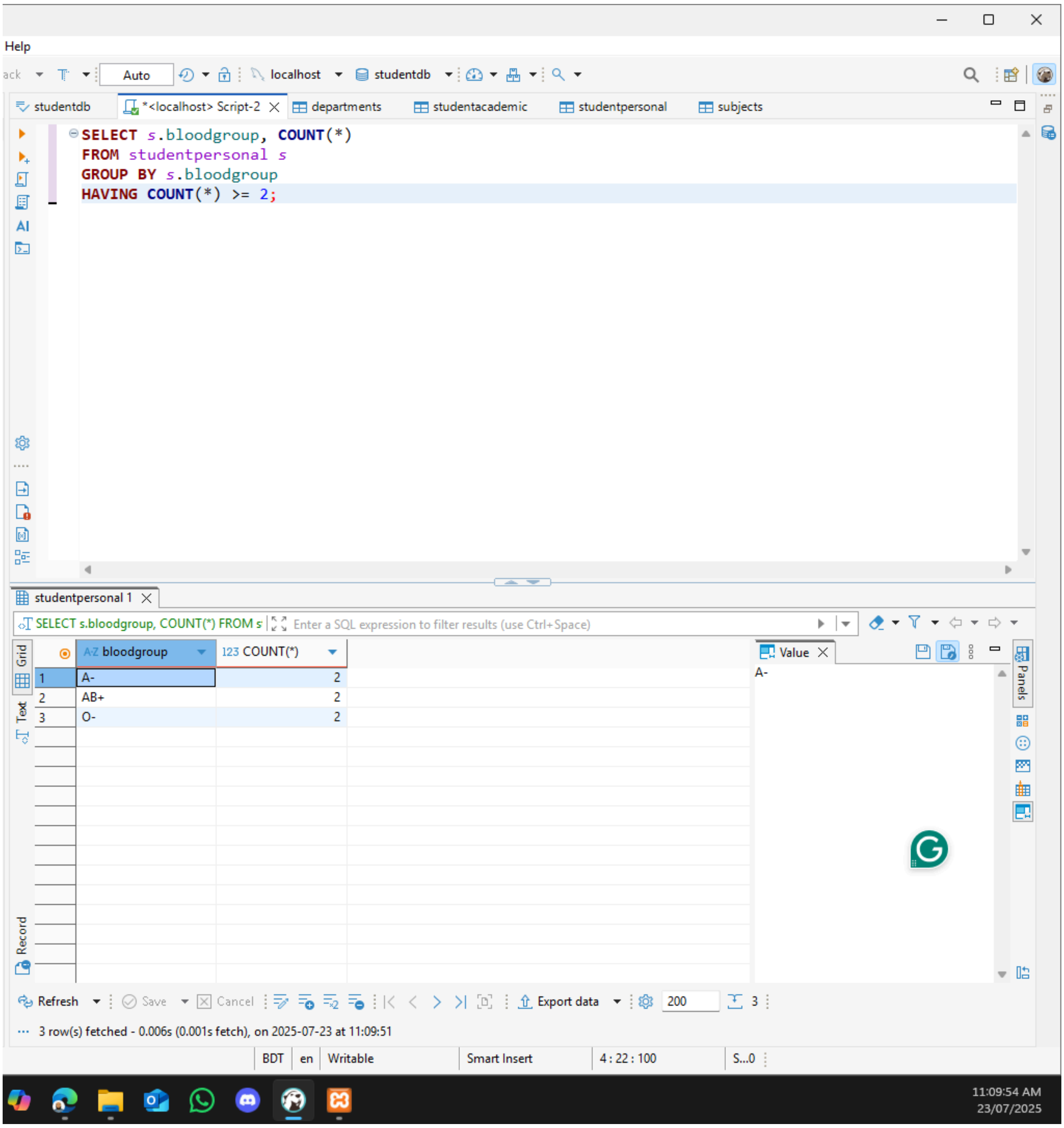
```
SELECT  d.departmentName , d.departmentCode, s.subjectTitle
FROM subjects s
JOIN departments d on d.departmentCode = s.departmentCode
WHERE s.subjectCode = 'EE201'
```

|  | departmentName | departmentCode | subjectTitle |
|---|---|---|---|
| 1 | Electrical Engineering | EE102 | Circuit Analysis |

1 row(s) fetched - 0.003s, on 2025-07-23 at 11:08:52

### 3. Show the count of students for each blood group that has at least 2 students

```sql
SELECT s.bloodgroup, COUNT(*)
FROM studentpersonal s
GROUP BY s.bloodgroup
HAVING COUNT(*) >= 2;
```



```sql
SELECT s.bloodgroup, COUNT(*)
FROM studentpersonal s
GROUP BY s.bloodgroup
HAVING COUNT(*) >= 2;
```

SELECT s.bloodgroup, COUNT(*) FROM s

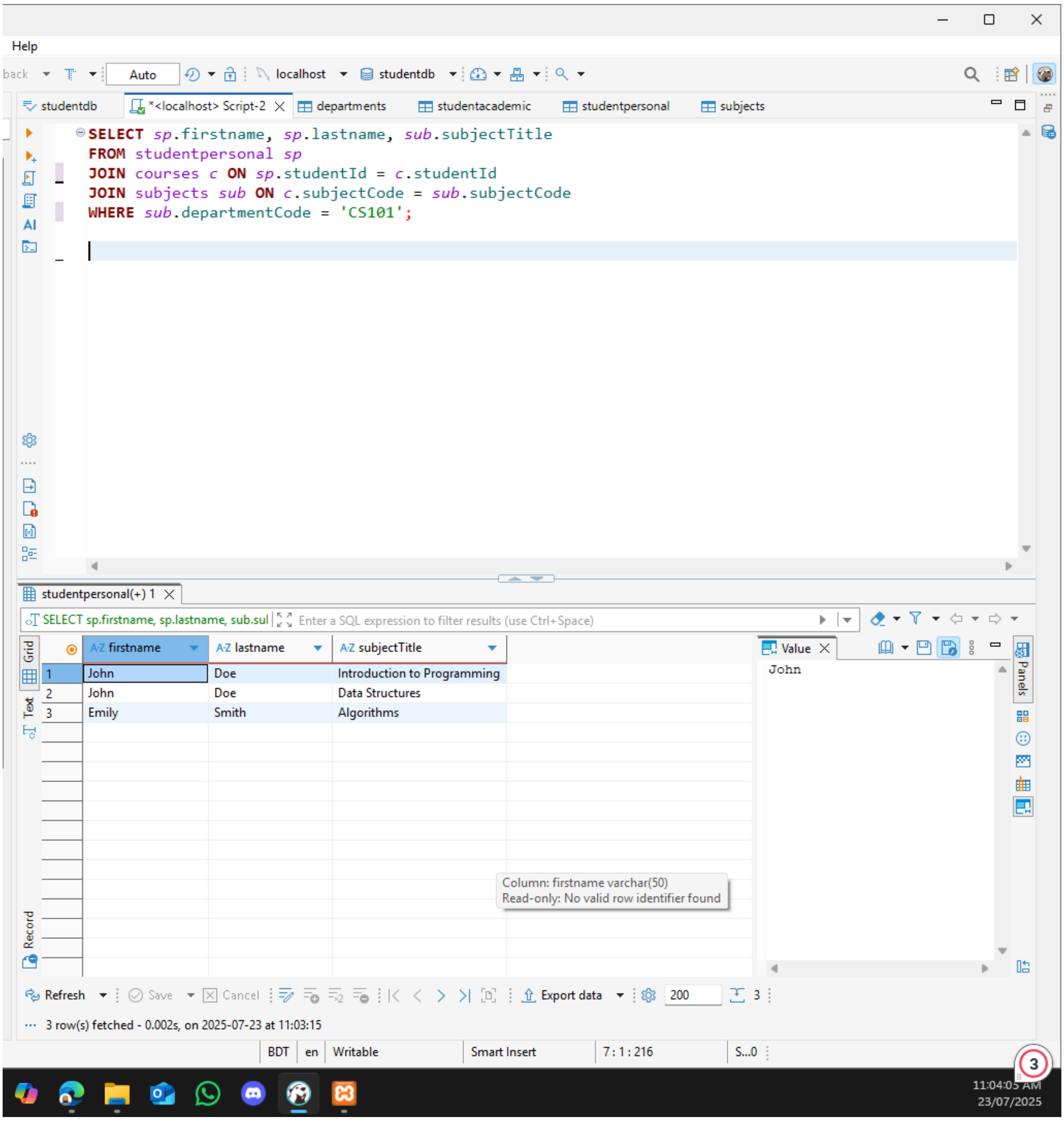
| | bloodgroup | COUNT(*) |
|---|---|---|
| 1 | A- | 2 |
| 2 | AB+ | 2 |
| 3 | O- | 2 |

Value: A-

3 row(s) fetched - 0.006s (0.001s fetch), on 2025-07-23 at 11:09:51

4. **Write a query to find the students' first name, last name, and subject title for those enrolled in the department CS101.**

```
SELECT sp.firstname, sp.lastname, sub.subjectTitle
FROM studentpersonal sp
JOIN courses c ON sp.studentId = c.studentId
JOIN subjects sub ON c.subjectCode = sub.subjectCode
WHERE sub.departmentCode = 'CS101';
```



```
SELECT sp.firstname, sp.lastname, sub.subjectTitle
FROM studentpersonal sp
JOIN courses c ON sp.studentId = c.studentId
JOIN subjects sub ON c.subjectCode = sub.subjectCode
WHERE sub.departmentCode = 'CS101';
```

SELECT sp.firstname, sp.lastname, sub.sul | Enter a SQL expression to filter results (use Ctrl+Space)

| | firstname | lastname | subjectTitle |
|---|---|---|---|
| 1 | John | Doe | Introduction to Programming |
| 2 | John | Doe | Data Structures |
| 3 | Emily | Smith | Algorithms |

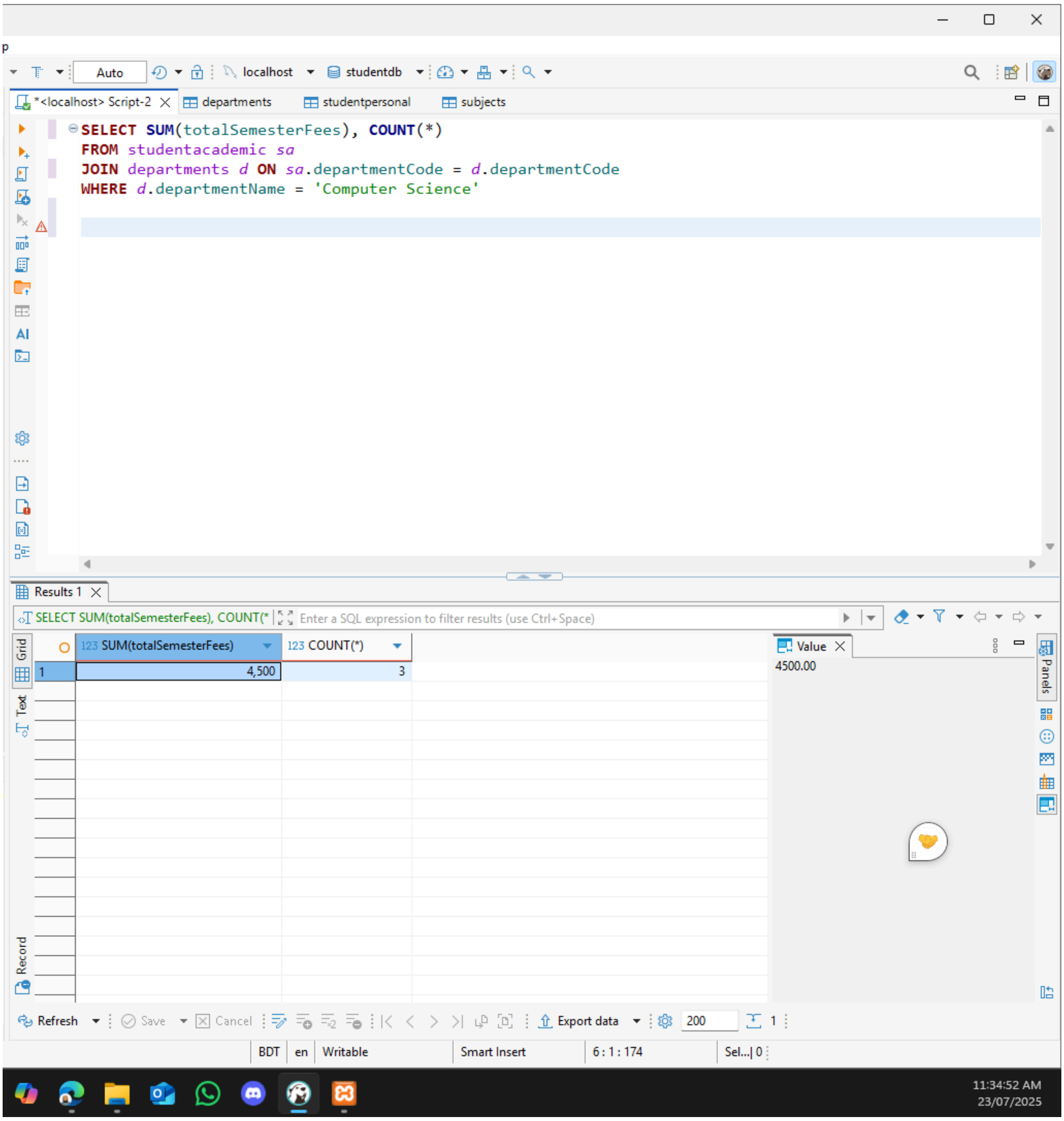
Value: John

Column: firstname varchar(50)
Read-only: No valid row identifier found

3 row(s) fetched - 0.002s, on 2025-07-23 at 11:03:15

**5.** Find the total semester fee collected for the Computer Science department.

```
SELECT SUM(totalSemesterFees), COUNT(*)
FROM studentacademic sa
JOIN departments d ON sa.departmentCode = d.departmentCode
WHERE d.departmentName = 'Computer Science'
```



```
SELECT SUM(totalSemesterFees), COUNT(*)
FROM studentacademic sa
JOIN departments d ON sa.departmentCode = d.departmentCode
WHERE d.departmentName = 'Computer Science'
```

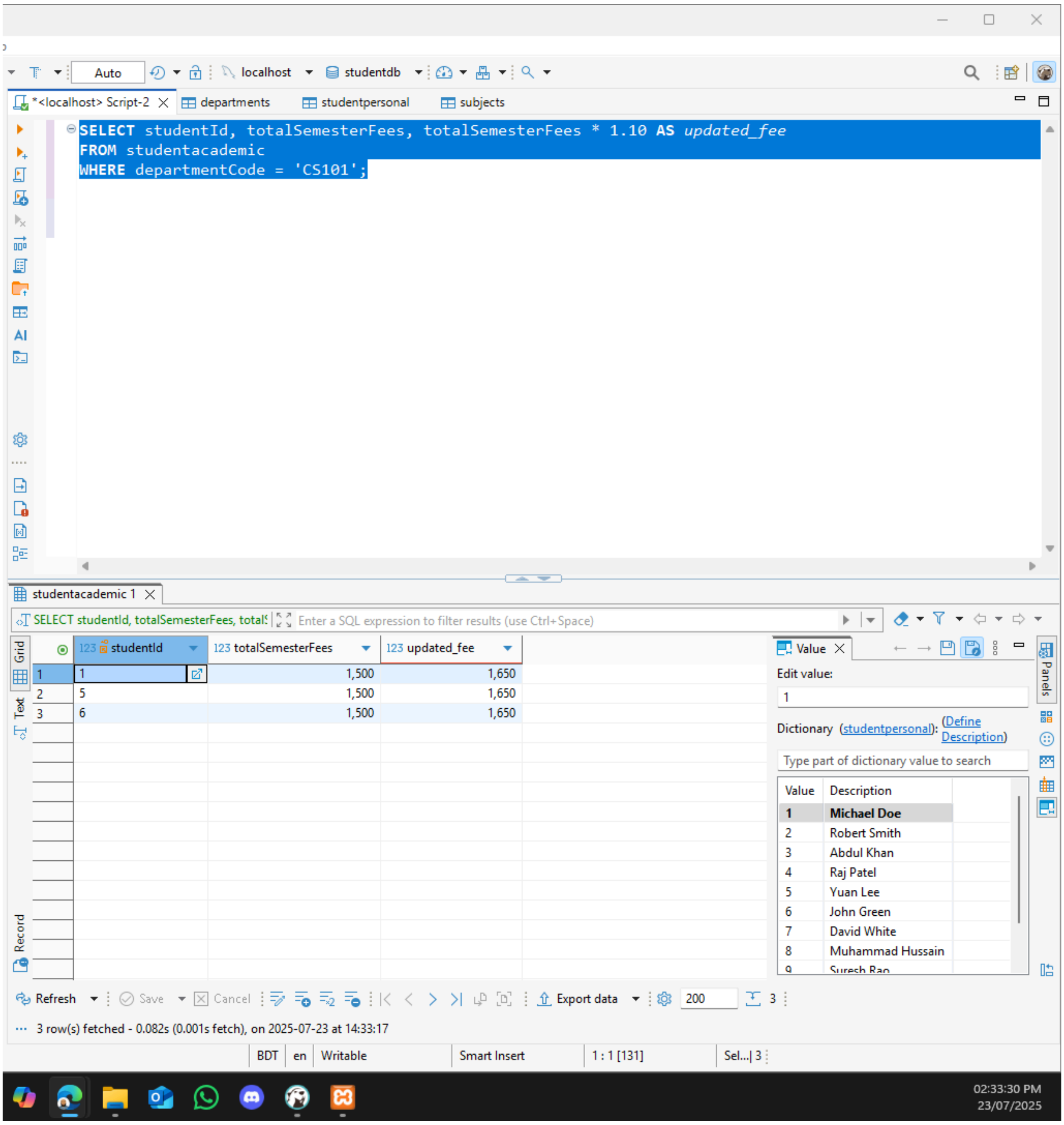
Results 1
SELECT SUM(totalSemesterFees), COUNT(*
Enter a SQL expression to filter results (use Ctrl+Space)
Grid
Text
Record
Panels

|  | SUM(totalSemesterFees) | COUNT(*) |
|---|---|---|
| 1 | 4,500 | 3 |

Value
4500.00

6. **Write a query to update the semester fee by 10% for students in the CS101 department.**

```
SELECT
        studentId, totalSemesterFees,
        totalSemesterFees * 1.10 AS updated_fee
FROM studentacademic
WHERE departmentCode = 'CS101';
```



```
SELECT studentId, totalSemesterFees, totalSemesterFees * 1.10 AS updated_fee
FROM studentacademic
WHERE departmentCode = 'CS101';
```

|  | studentId | totalSemesterFees | updated_fee |
|---|---|---|---|
| 1 | 1 | 1,500 | 1,650 |
| 2 | 5 | 1,500 | 1,650 |
| 3 | 6 | 1,500 | 1,650 |

Edit value: 1

Dictionary (studentpersonal): (Define Description)

Type part of dictionary value to search

| Value | Description |
|---|---|
| 1 | Michael Doe |
| 2 | Robert Smith |
| 3 | Abdul Khan |
| 4 | Raj Patel |
| 5 | Yuan Lee |
| 6 | John Green |
| 7 | David White |
| 8 | Muhammad Hussain |
| 9 | Suresh Rao |

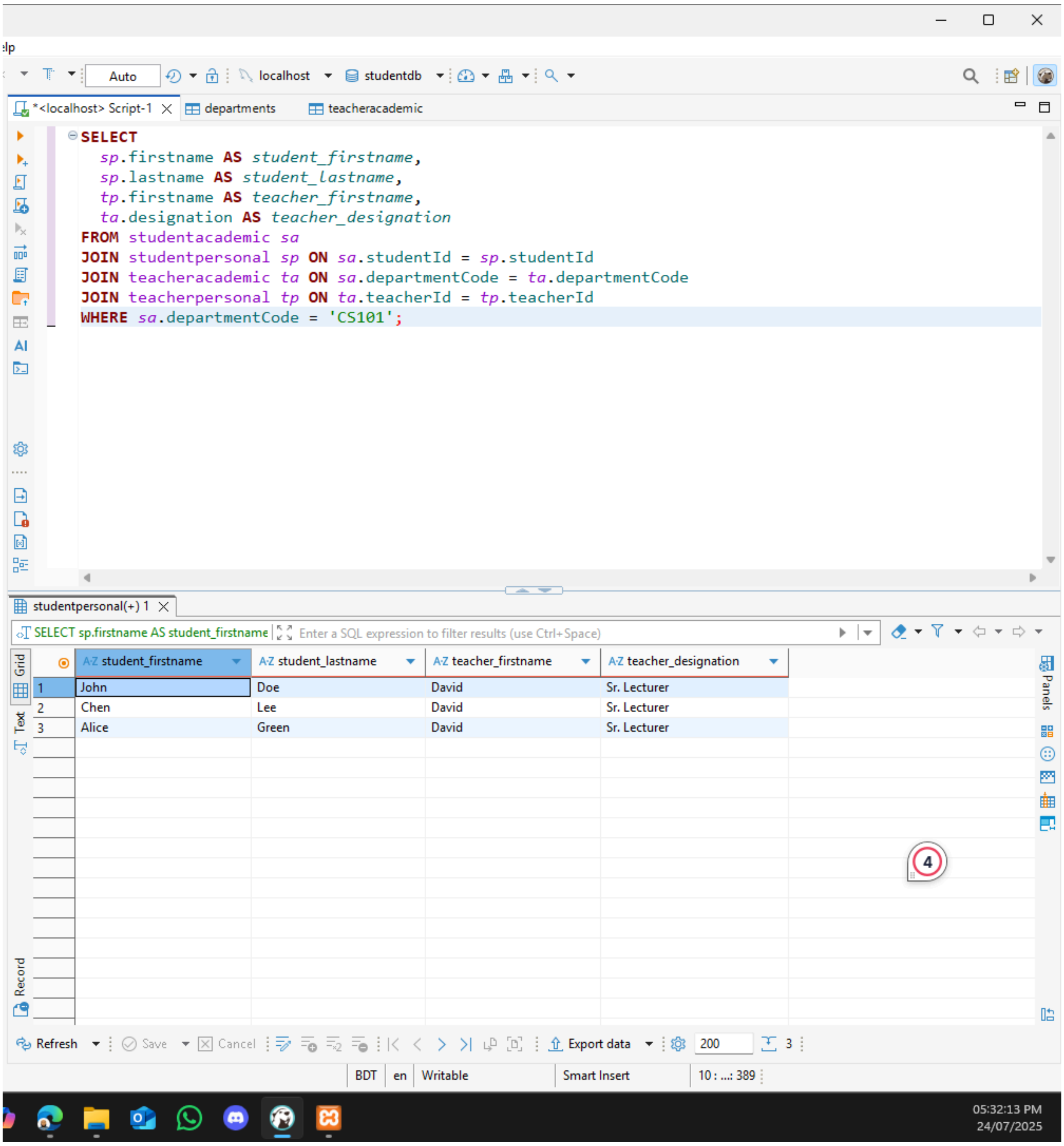
3 row(s) fetched - 0.082s (0.001s fetch), on 2025-07-23 at 14:33:17

BDT | en | Writable | Smart Insert | 1 : 1 [131] | Sel...| 3

02:33:30 PM
23/07/2025

7. **Write a query to find the students' first name, last name, teacher's first name, and teacher's designation who are enrolled in the course CS101.**

```
SELECT
 sp.firstname AS student_firstname,
 sp.lastname AS student_lastname,
 tp.firstname AS teacher_firstname,
 ta.designation AS teacher_designation
FROM studentacademic sa
JOIN studentpersonal sp ON sa.studentId = sp.studentId
JOIN teacheracademic ta ON sa.departmentCode = ta.departmentCode
JOIN teacherpersonal tp ON ta.teacherId = tp.teacherId
WHERE sa.departmentCode = 'CS101';
```



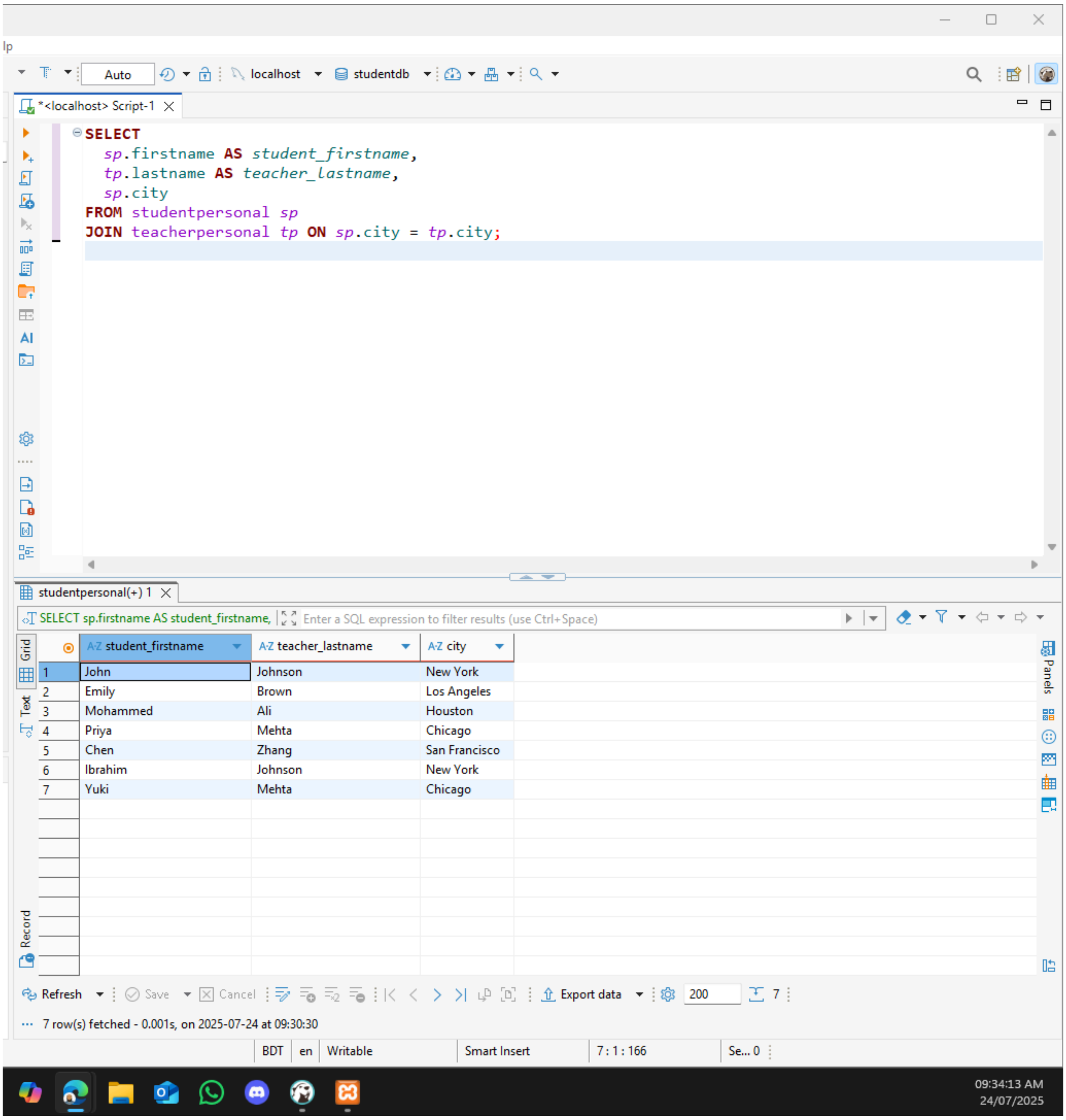
```
SELECT
  sp.firstname AS student_firstname,
  sp.lastname AS student_lastname,
  tp.firstname AS teacher_firstname,
  ta.designation AS teacher_designation
FROM studentacademic sa
JOIN studentpersonal sp ON sa.studentId = sp.studentId
JOIN teacheracademic ta ON sa.departmentCode = ta.departmentCode
JOIN teacherpersonal tp ON ta.teacherId = tp.teacherId
WHERE sa.departmentCode = 'CS101';
```

studentpersonal(+) 1
SELECT sp.firstname AS student_firstname
Enter a SQL expression to filter results (use Ctrl+Space)

| | student_firstname | student_lastname | teacher_firstname | teacher_designation |
|---|---|---|---|---|
| 1 | John | Doe | David | Sr. Lecturer |
| 2 | Chen | Lee | David | Sr. Lecturer |
| 3 | Alice | Green | David | Sr. Lecturer |

8. **Write a query to show the student's first name and the teacher's last name where both the teacher and student are from the same city.**

```
SELECT
        sp.firstname AS student_firstname,
        tp.lastname AS teacher_lastname,  sp.city
FROM studentpersonal sp
JOIN teacherpersonal tp ON sp.city = tp.city;
```



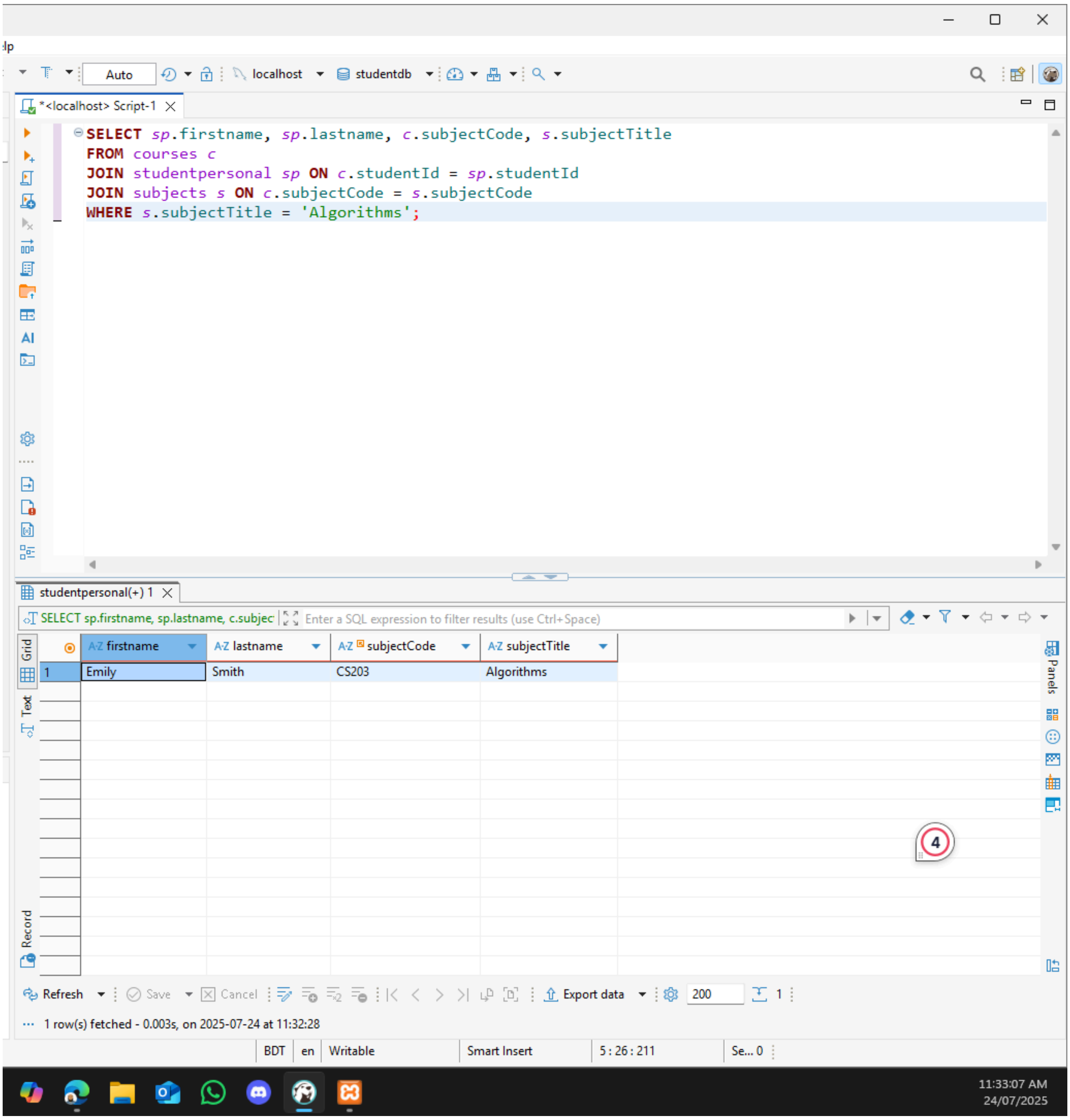
```
SELECT
   sp.firstname AS student_firstname,
   tp.lastname AS teacher_lastname,
   sp.city
FROM studentpersonal sp
JOIN teacherpersonal tp ON sp.city = tp.city;
```

| | student_firstname | teacher_lastname | city |
|---|---|---|---|
| 1 | John | Johnson | New York |
| 2 | Emily | Brown | Los Angeles |
| 3 | Mohammed | Ali | Houston |
| 4 | Priya | Mehta | Chicago |
| 5 | Chen | Zhang | San Francisco |
| 6 | Ibrahim | Johnson | New York |
| 7 | Yuki | Mehta | Chicago |

7 row(s) fetched - 0.001s, on 2025-07-24 at 09:30:30

9. **Write a query to show the student's first name, last name, email, subject code, and subject title for the students enrolled in the subject "Algorithms."**

```
SELECT sp.firstname, sp.lastname, c.subjectCode, s.subjectTitle
FROM courses c
JOIN studentpersonal sp ON c.studentId = sp.studentId
JOIN subjects s ON c.subjectCode = s.subjectCode
WHERE s.subjectTitle = 'Algorithms';
```



```
SELECT sp.firstname, sp.lastname, c.subjectCode, s.subjectTitle
FROM courses c
JOIN studentpersonal sp ON c.studentId = sp.studentId
JOIN subjects s ON c.subjectCode = s.subjectCode
WHERE s.subjectTitle = 'Algorithms';
```

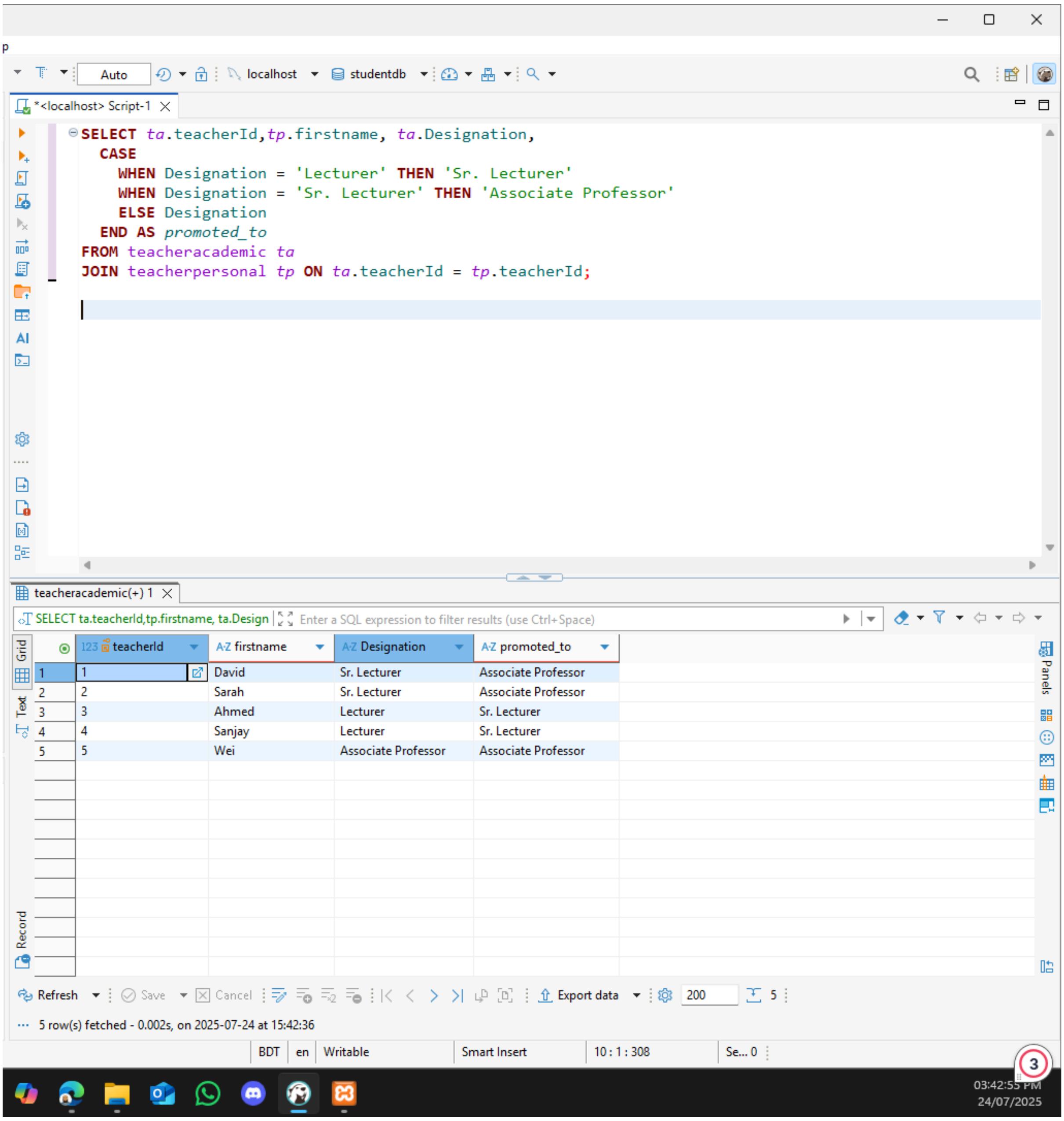
studentpersonal(+) 1
SELECT sp.firstname, sp.lastname, c.subjec
Enter a SQL expression to filter results (use Ctrl+Space)
Grid
Text
Record
Panels

| | firstname | lastname | subjectCode | subjectTitle |
|---|---|---|---|---|
| 1 | Emily | Smith | CS203 | Algorithms |

1 row(s) fetched - 0.003s, on 2025-07-24 at 11:32:28

10. **Write a query to promote teachers who are currently Lecturers to Sr.Lecturers, and promote Sr. Lecturers to Associate Professors.**

```
SELECT ta.teacherId, tp.firstname, ta.Designation,
        CASE
                WHEN Designation = 'Lecturer' THEN 'Sr. Lecturer'
                WHEN Designation = 'Sr. Lecturer' THEN 'Associate Professor'
         ELSE Designation
 END AS promoted_to
FROM teacheracademic ta
JOIN teacherpersonal tp ON ta.teacherId =  tp.teacherId;
```



Auto
localhost
studentdb
*<localhost> Script-1

```
SELECT ta.teacherId,tp.firstname, ta.Designation,
  CASE
    WHEN Designation = 'Lecturer' THEN 'Sr. Lecturer'
    WHEN Designation = 'Sr. Lecturer' THEN 'Associate Professor'
    ELSE Designation
  END AS promoted_to
FROM teacheracademic ta
JOIN teacherpersonal tp ON ta.teacherId = tp.teacherId;
```

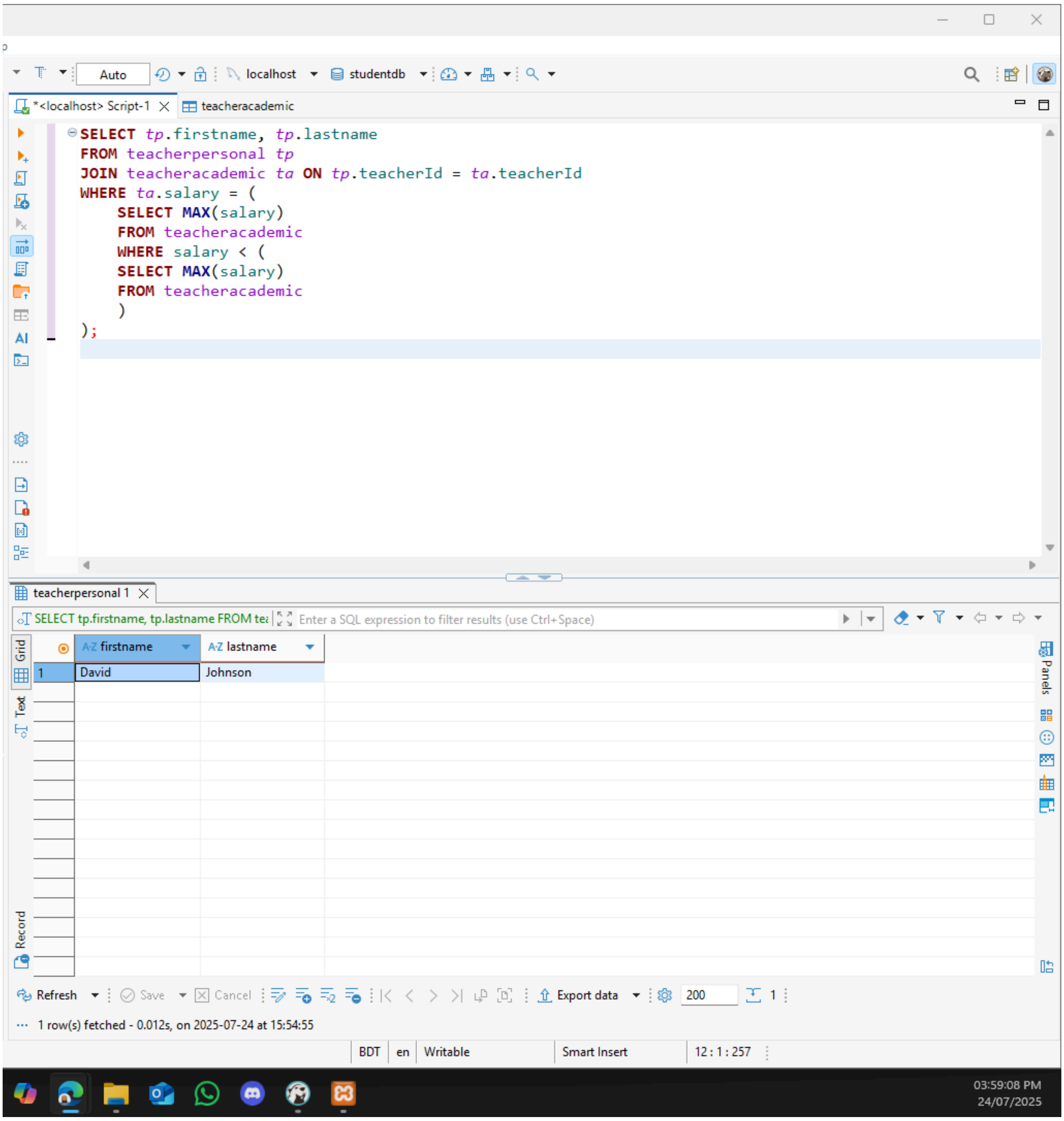
teacheracademic(+) 1
SELECT ta.teacherId,tp.firstname, ta.Design
Enter a SQL expression to filter results (use Ctrl+Space)
Grid
Text
Record
Panels

| | teacherId | firstname | Designation | promoted_to |
|---|---|---|---|---|
| 1 | 1 | David | Sr. Lecturer | Associate Professor |
| 2 | 2 | Sarah | Sr. Lecturer | Associate Professor |
| 3 | 3 | Ahmed | Lecturer | Sr. Lecturer |
| 4 | 4 | Sanjay | Lecturer | Sr. Lecturer |
| 5 | 5 | Wei | Associate Professor | Associate Professor |

5 row(s) fetched - 0.002s, on 2025-07-24 at 15:42:36

11. **Write a query to find the teacher's first name and last name who has the second highest salary.**

```
SELECT tp.firstname, tp.lastname
FROM teacherpersonal tp
JOIN teacheracademic ta ON tp.teacherId = ta.teacherId
WHERE ta.salary = (
        SELECT MAX(salary)
        FROM teacheracademic
        WHERE salary < (
        SELECT MAX(salary)
  FROM teacheracademic
        )
);
```



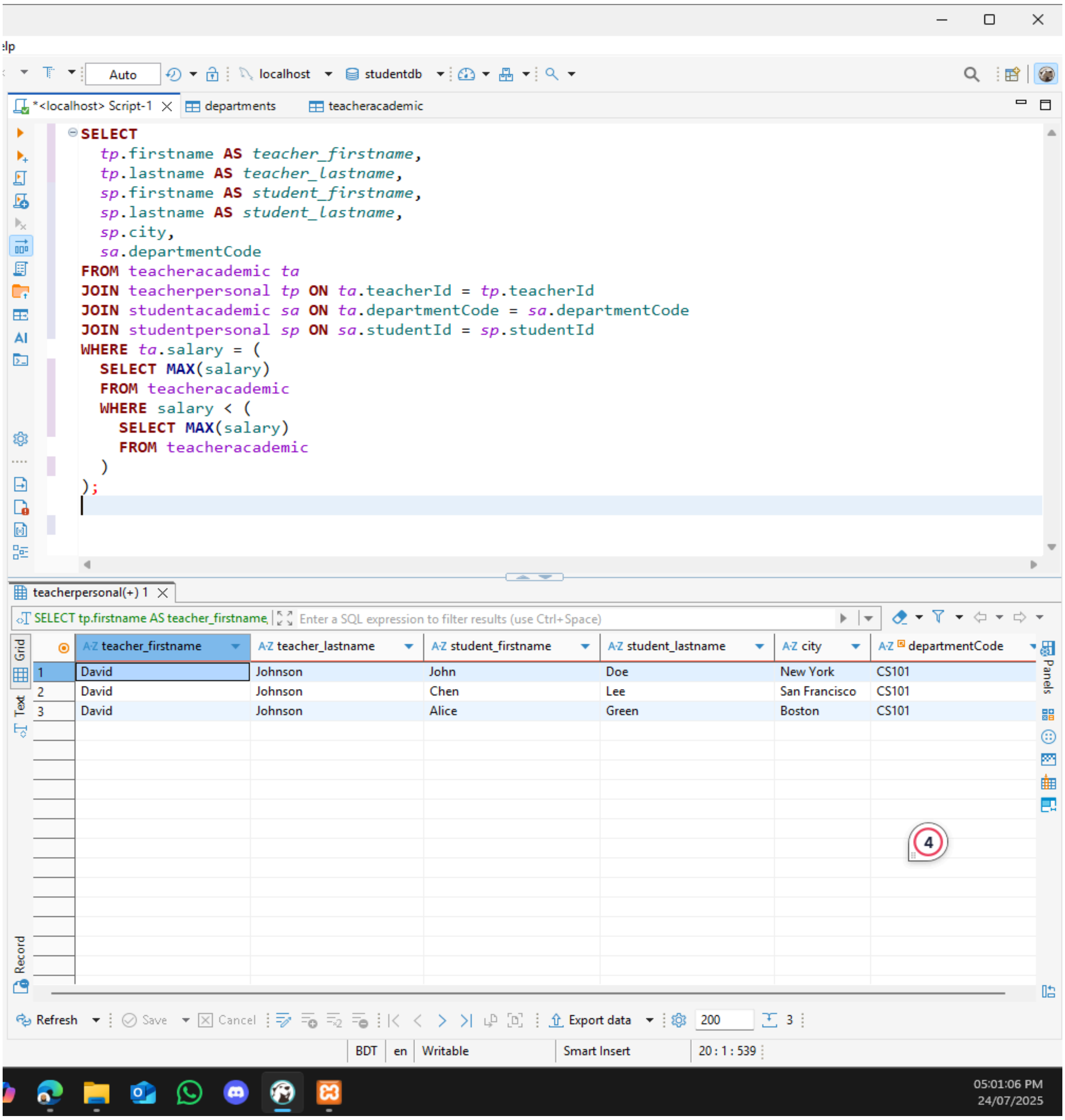
```
SELECT tp.firstname, tp.lastname
FROM teacherpersonal tp
JOIN teacheracademic ta ON tp.teacherId = ta.teacherId
WHERE ta.salary = (
    SELECT MAX(salary)
    FROM teacheracademic
    WHERE salary < (
    SELECT MAX(salary)
    FROM teacheracademic
    )
);
```

|   | firstname | lastname |
|---|---|---|
| 1 | David | Johnson |

1 row(s) fetched - 0.012s, on 2025-07-24 at 15:54:55

12. Write a query to find the teacher who has the second highest salary and list the students enrolled in their course. Show the teacher's first name, last name, and the students' first name, last name, city, and department code.

```
SELECT
 tp.firstname AS teacher_firstname, tp.lastname AS teacher_lastname,
 sp.firstname AS student_firstname, sp.lastname AS student_lastname,
 sp.city, sa.departmentCode
FROM teacheracademic ta
JOIN teacherpersonal tp ON ta.teacherId = tp.teacherId
JOIN studentacademic sa ON ta.departmentCode = sa.departmentCode
JOIN studentpersonal sp ON sa.studentId = sp.studentId
WHERE ta.salary = (
 SELECT MAX(salary)
 FROM teacheracademic
 WHERE salary < (
  SELECT MAX(salary)
  FROM teacheracademic
 )
);
```



```
SELECT
  tp.firstname AS teacher_firstname,
  tp.lastname AS teacher_lastname,
  sp.firstname AS student_firstname,
  sp.lastname AS student_lastname,
  sp.city,
  sa.departmentCode
FROM teacheracademic ta
JOIN teacherpersonal tp ON ta.teacherId = tp.teacherId
JOIN studentacademic sa ON ta.departmentCode = sa.departmentCode
JOIN studentpersonal sp ON sa.studentId = sp.studentId
WHERE ta.salary = (
  SELECT MAX(salary)
  FROM teacheracademic
  WHERE salary < (
    SELECT MAX(salary)
    FROM teacheracademic
  )
);
```

teacherpersonal(+) 1

SELECT tp.firstname AS teacher_firstname,

Enter a SQL expression to filter results (use Ctrl+Space)

| | teacher_firstname | teacher_lastname | student_firstname | student_lastname | city | departmentCode |
|---|---|---|---|---|---|---|
| 1 | David | Johnson | John | Doe | New York | CS101 |
| 2 | David | Johnson | Chen | Lee | San Francisco | CS101 |
| 3 | David | Johnson | Alice | Green | Boston | CS101 |