**Class Test 04**

**Table: Student\_info**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| S\_Id | S\_Name | S\_CGPA | S\_BloodStatus | S\_BloodGroup | a\_id |
| 1 | Mira | 3.59 | Halfblood | O+ | 11 |
| 2 | Rahman | 3.90 | Pureblood | A+ | 11 |
| 3 | Sharon |  | Pureblood | B+ | 22 |
| 4 | Caprio | 3.21 | Pureblood | AB+ | 22 |
| 5 | Winslet | 3.55 | Muggleborn | AB- | 33 |
| 6 | Khadija | 2.85 |  | O- | 33 |
| 7 | Shekhar | 2.30 | Pureblood | O+ | 44 |
| 8 | Florina | 3.10 | Pureblood | B+ | 44 |

**Table: Address**

|  |  |  |  |
| --- | --- | --- | --- |
| a\_id | city | country | Country\_code |
| 11 | Dhaka | Bangladesh | 101 |
| 22 | Doha | Qatar | 102 |
| 33 | Washington D.C | USA | 103 |
| 44 | London | UK | 104 |

Write down the queries of the following questions:

**Table Creation:**

CREATE TABLE Student\_info (

S\_Id NUMBER PRIMARY KEY,

S\_Name VARCHAR2(50),

S\_CGPA NUMBER(3,2),

S\_BloodStatus VARCHAR2(20),

S\_BloodGroup VARCHAR2(3),

a\_id NUMBER

);

CREATE TABLE Address (

a\_id NUMBER PRIMARY KEY,

city VARCHAR2(50),

country VARCHAR2(50),

Country\_code NUMBER

);

**Data Insertion:**

INSERT INTO Student\_info VALUES (1, 'Mira', 3.59, 'Halfblood', 'O+', 11);

INSERT INTO Student\_info VALUES (2, 'Rahman', 3.90, 'Pureblood', 'A+', 11);

INSERT INTO Student\_info VALUES (3, 'Sharon', NULL, 'Pureblood', 'B+', 22);

INSERT INTO Student\_info VALUES (4, 'Caprio', 3.21, 'Pureblood', 'AB+', 22);

INSERT INTO Student\_info VALUES (5, 'Winslet', 3.55, 'Muggleborn', 'AB-', 33);

INSERT INTO Student\_info VALUES (6, 'Khadija', 2.85, NULL, 'O-', 33);

INSERT INTO Student\_info VALUES (7, 'Shekhar', 2.30, 'Pureblood', 'O+', 44);

INSERT INTO Student\_info VALUES (8, 'Florina', 3.10, 'Pureblood', 'B+', 44);

INSERT INTO Address VALUES (11, 'Dhaka', 'Bangladesh', 101);

INSERT INTO Address VALUES (22, 'Doha', 'Qatar', 102);

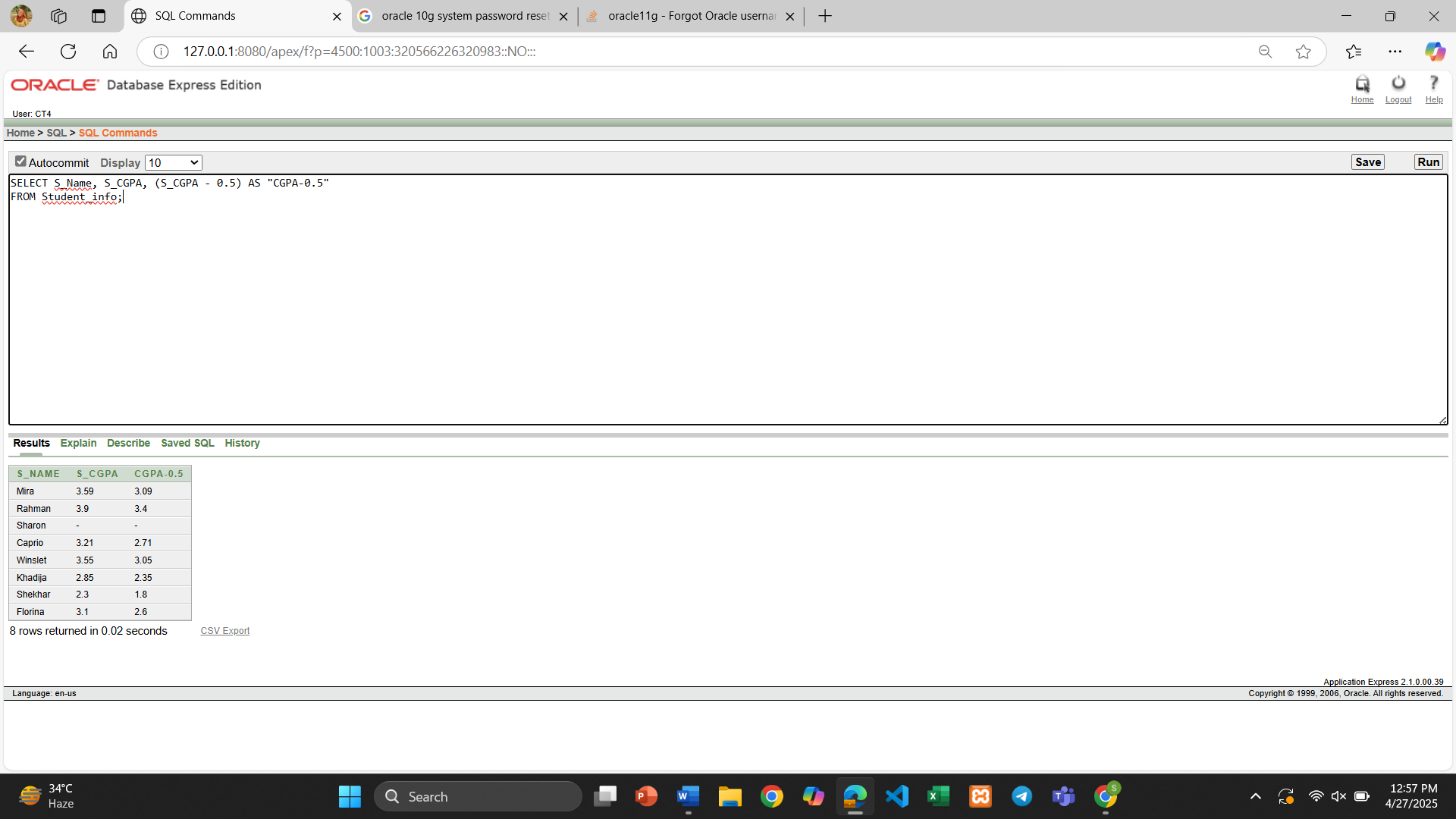
INSERT INTO Address VALUES (33, 'Washington D.C', 'USA', 103);

INSERT INTO Address VALUES (44, 'London', 'UK', 104);

1. Display the name, CGPA, (CGPA-0.5) of the students from the Student\_info table.

**SQL:**  
SELECT S\_Name, S\_CGPA, (S\_CGPA - 0.5) AS "CGPA-0.5"

FROM Student\_info;



**PL/SQL:**

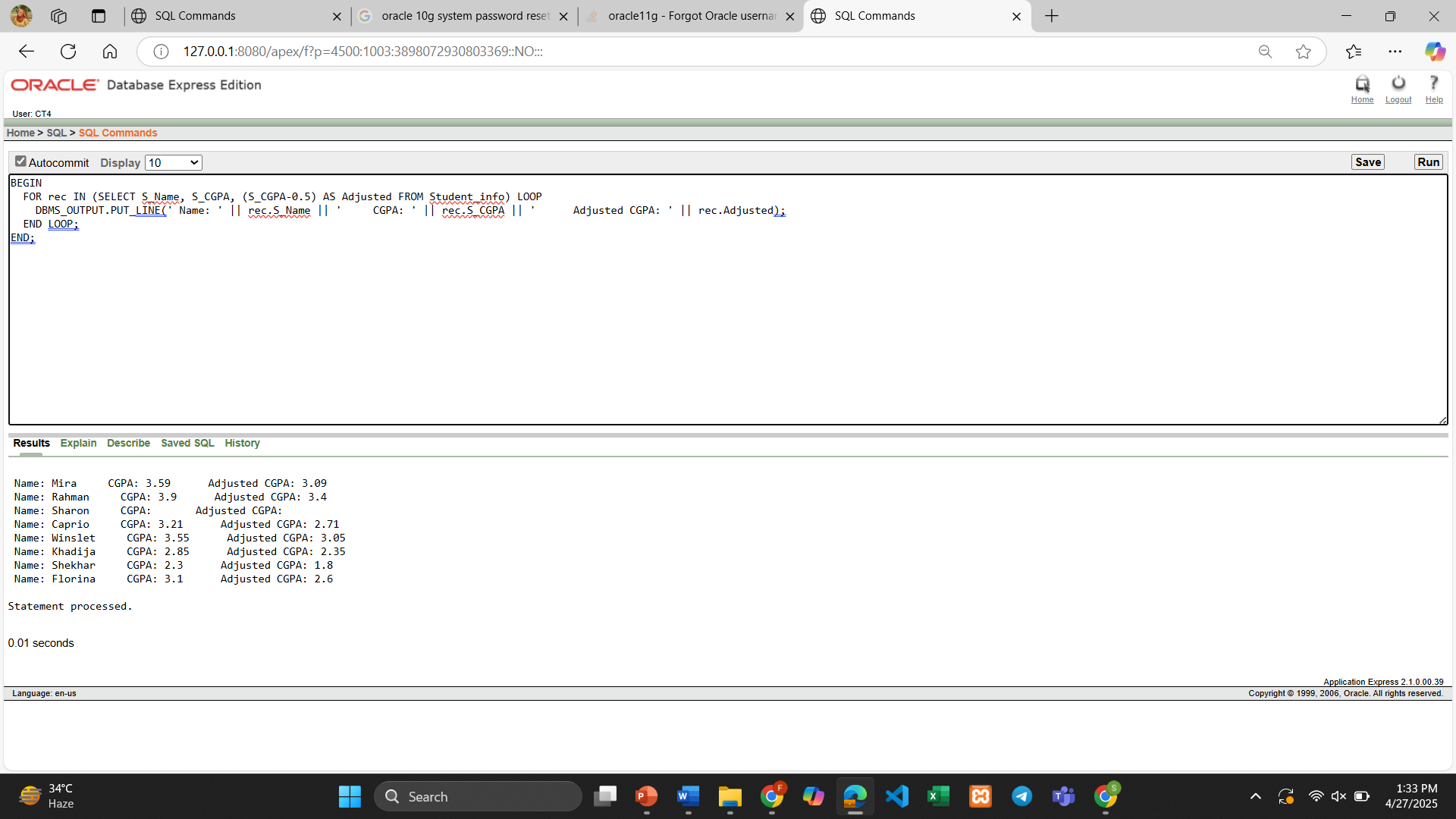
BEGIN

FOR rec IN (SELECT S\_Name, S\_CGPA, (S\_CGPA-0.5) AS Adjusted FROM Student\_info) LOOP

DBMS\_OUTPUT.PUT\_LINE(rec.S\_Name || ' | ' || rec.S\_CGPA || ' | ' || rec.Adjusted);

END LOOP;

END;

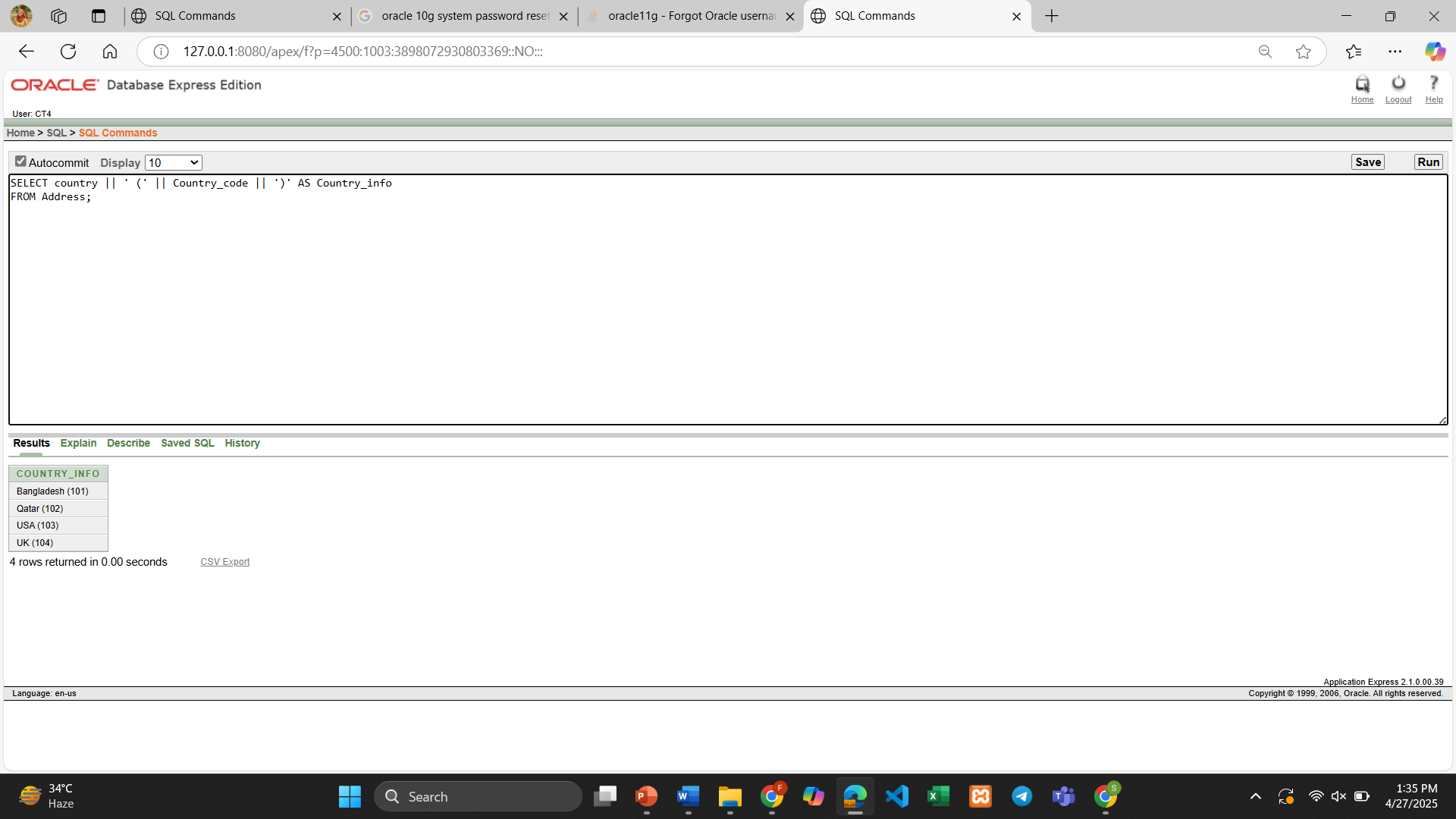


1. Display country and country code together as “Country\_info” using concatenation function.

**SQL:**

SELECT country || ' (' || Country\_code || ')' AS Country\_info

FROM Address;



**PL/SQL:**

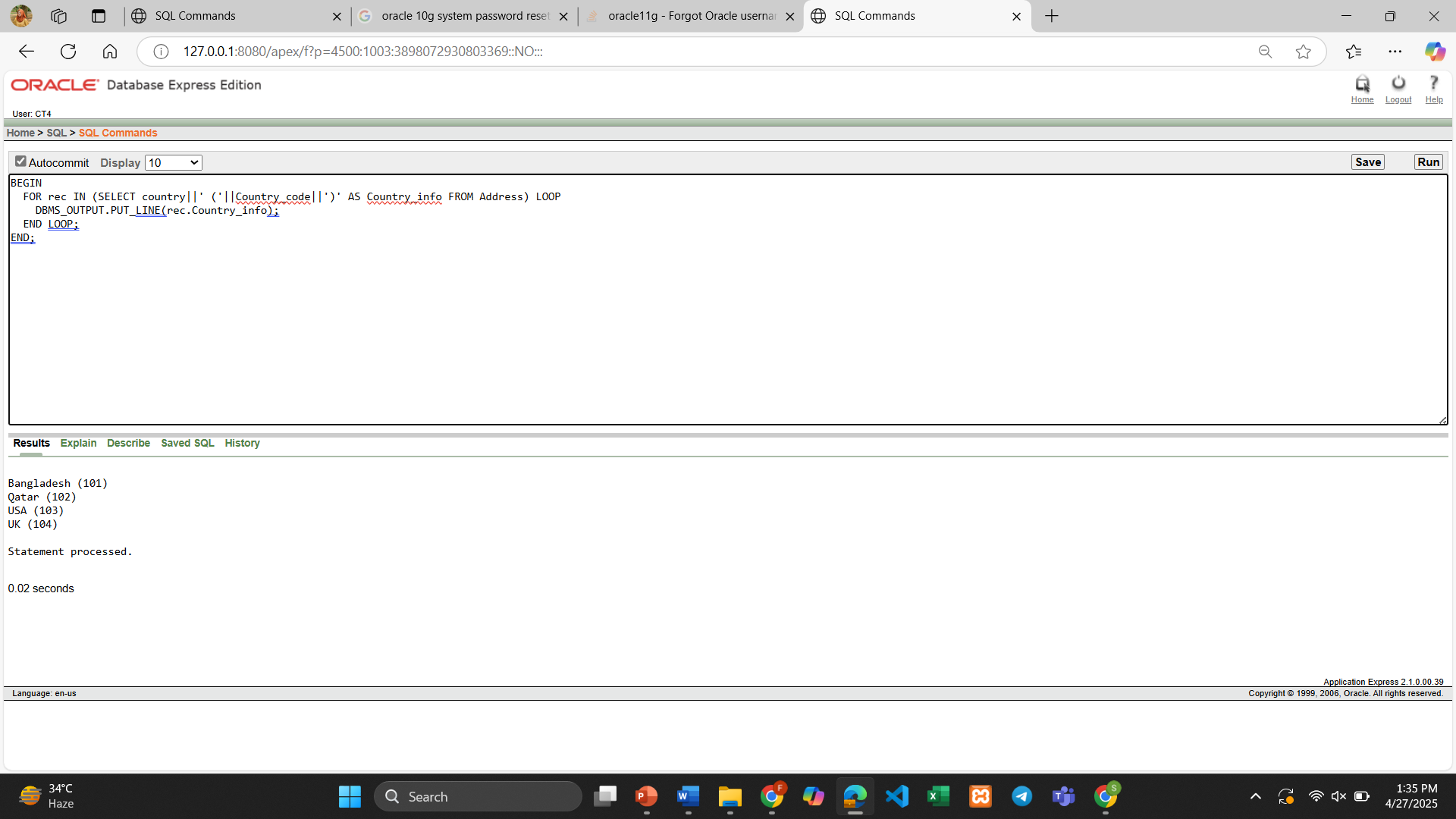
BEGIN

FOR rec IN (SELECT country||' ('||Country\_code||')' AS Country\_info FROM Address) LOOP

DBMS\_OUTPUT.PUT\_LINE(rec.Country\_info);

END LOOP;

END;

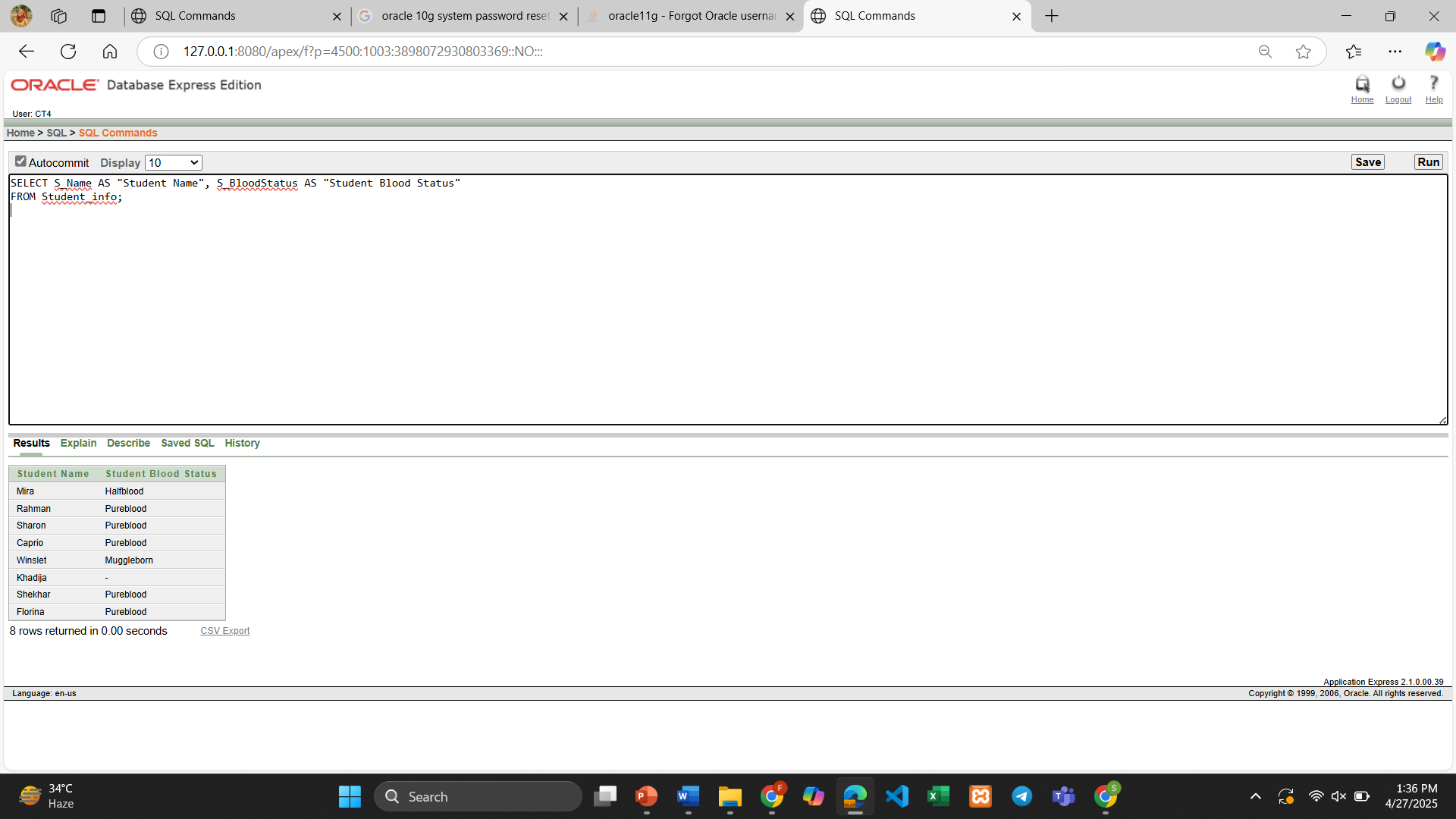


1. Display the student name and student blood status with the column name “Student Name” and “Student Blood Status” from Student\_info.

**SQL:**

SELECT S\_Name AS "Student Name", S\_BloodStatus AS "Student Blood Status"

FROM Student\_info;



**PL/SQL:**

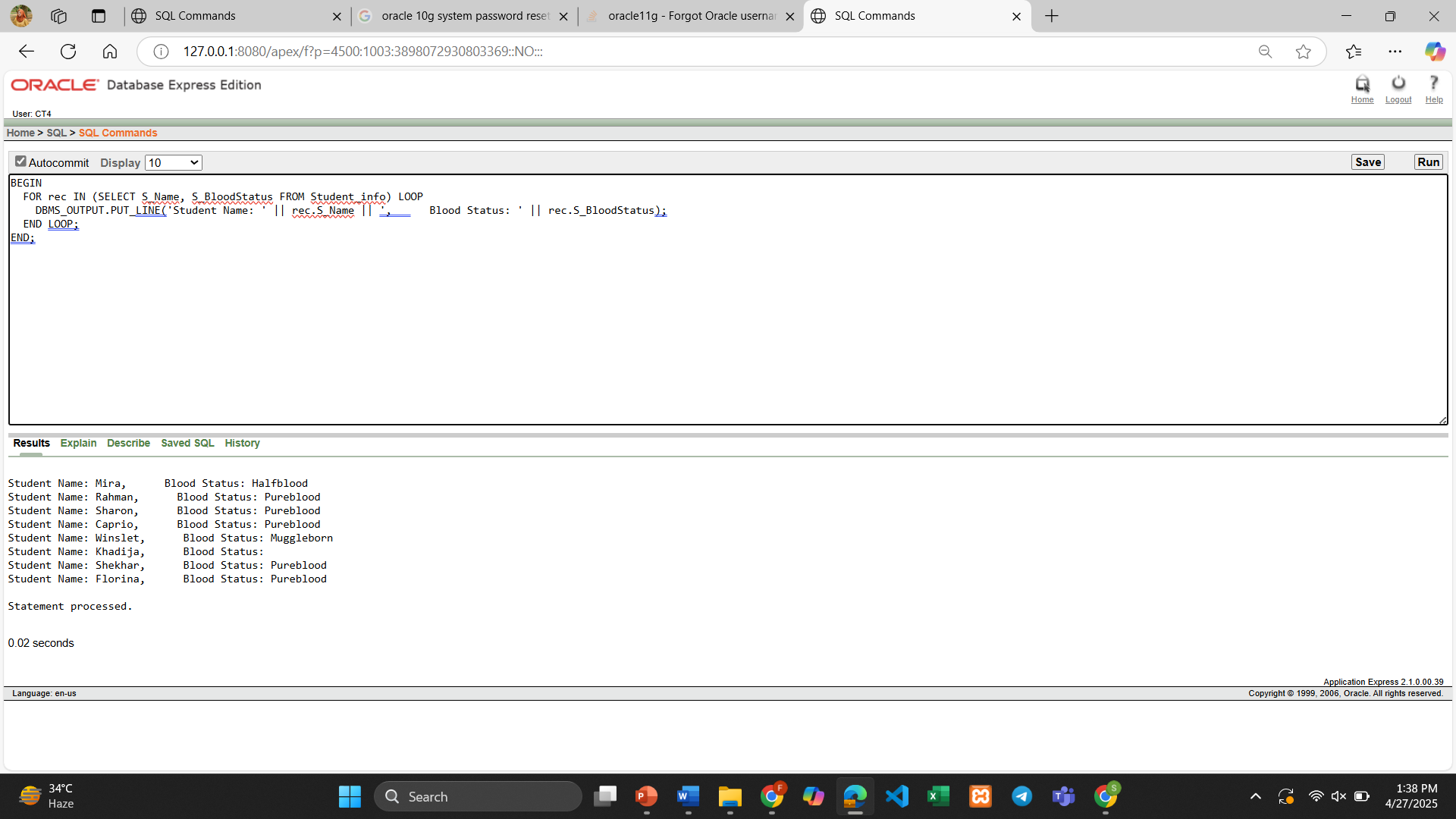
BEGIN

FOR rec IN (SELECT S\_Name, S\_BloodStatus FROM Student\_info) LOOP

DBMS\_OUTPUT.PUT\_LINE('Student Name: ' || rec.S\_Name || ', Blood Status: ' || rec.S\_BloodStatus);

END LOOP;

END;



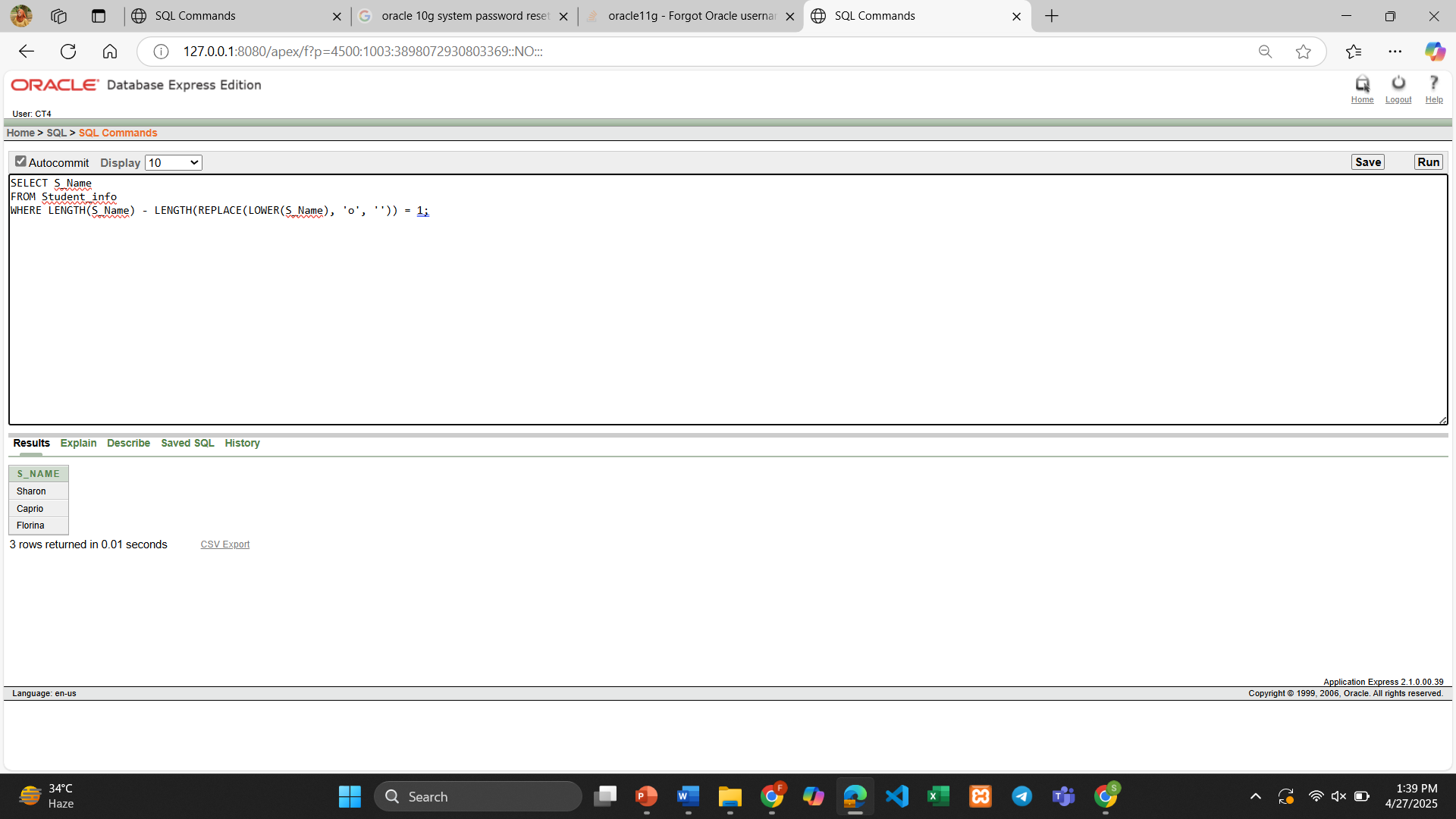
1. Display all students who have only one ‘o’ in their name.

**SQL:**

SELECT S\_Name

FROM Student\_info

WHERE LENGTH(S\_Name) - LENGTH(REPLACE(LOWER(S\_Name), 'o', '')) = 1;



**PL/SQL:**

BEGIN

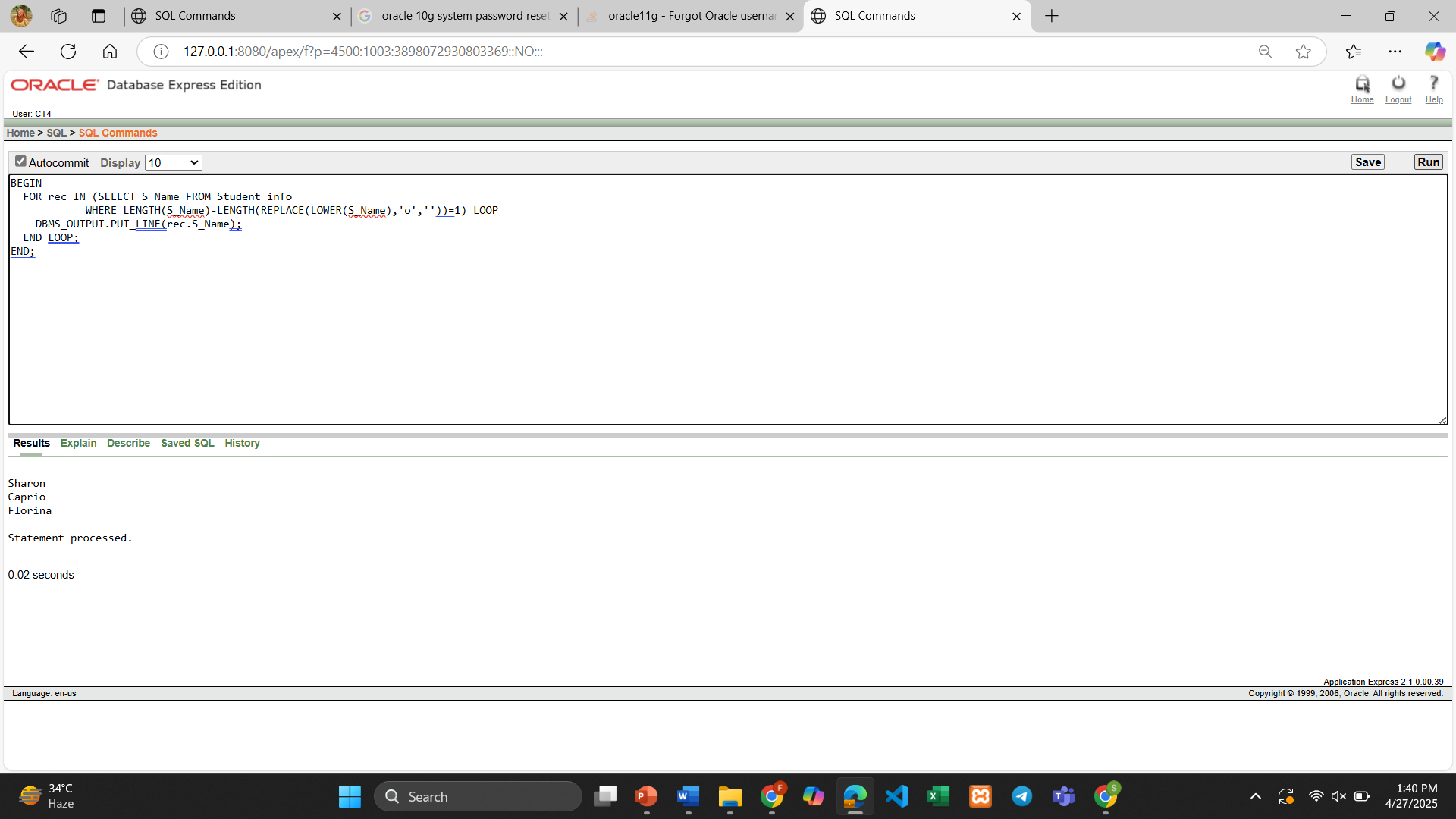
FOR rec IN (SELECT S\_Name FROM Student\_info

WHERE LENGTH(S\_Name)-LENGTH(REPLACE(LOWER(S\_Name),'o',''))=1) LOOP

DBMS\_OUTPUT.PUT\_LINE(rec.S\_Name);

END LOOP;

END;



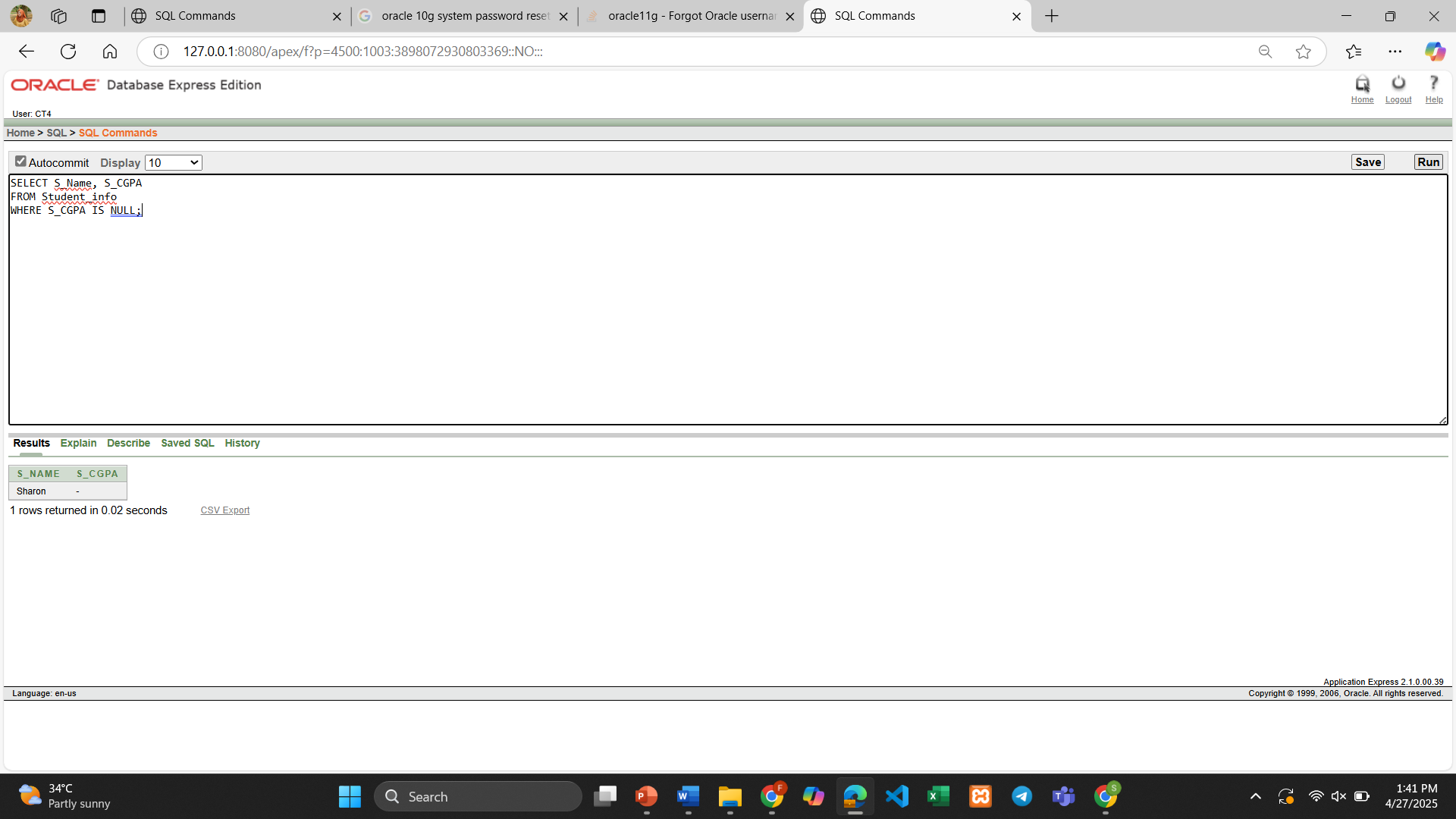
1. Display the student name , CGPA who have null value in their CGPA.

**SQL:**

SELECT S\_Name, S\_CGPA

FROM Student\_info

WHERE S\_CGPA IS NULL;



**PL/SQL:**

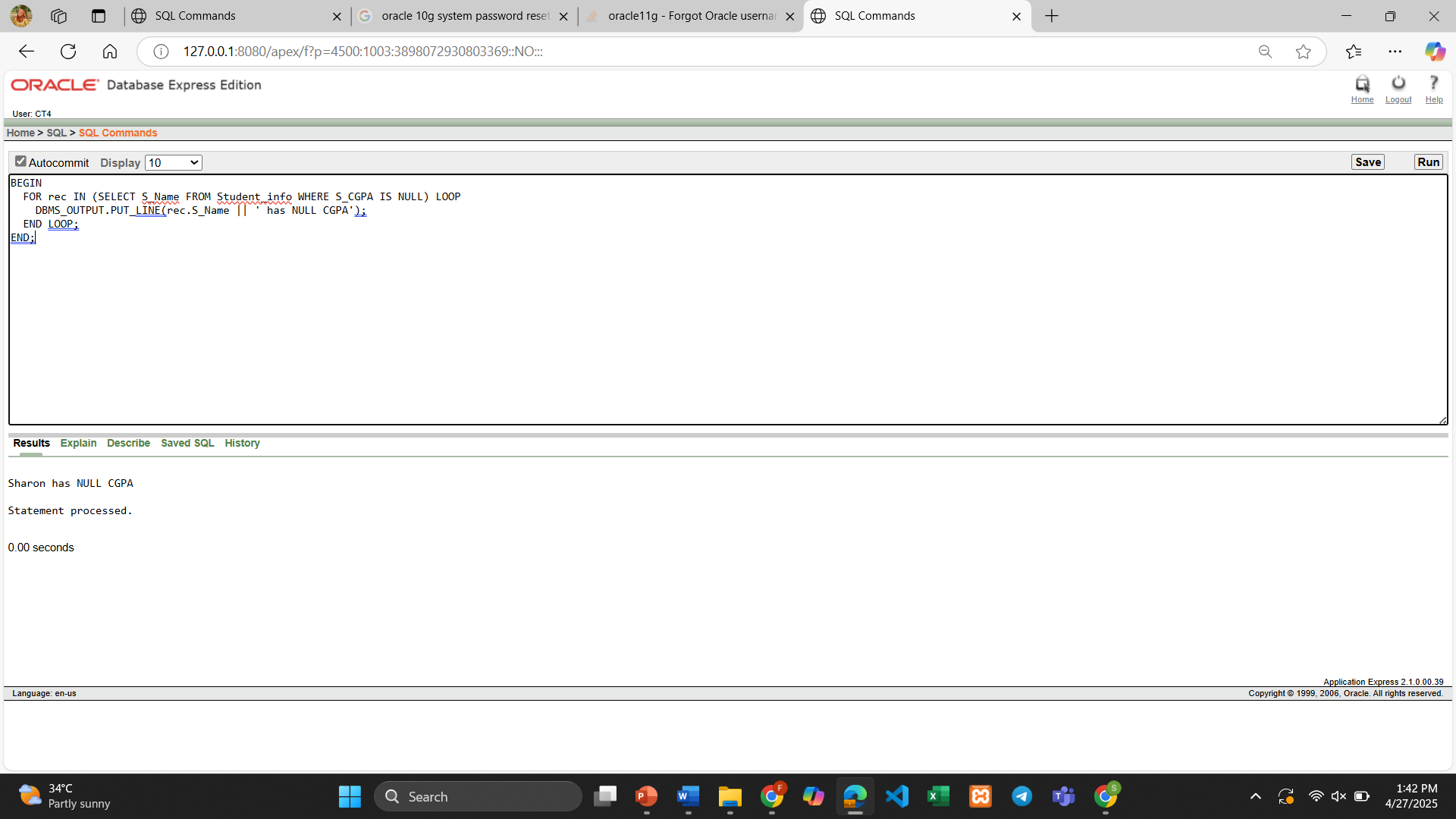
BEGIN

FOR rec IN (SELECT S\_Name FROM Student\_info WHERE S\_CGPA IS NULL) LOOP

DBMS\_OUTPUT.PUT\_LINE(rec.S\_Name || ' has NULL CGPA');

END LOOP;

END;



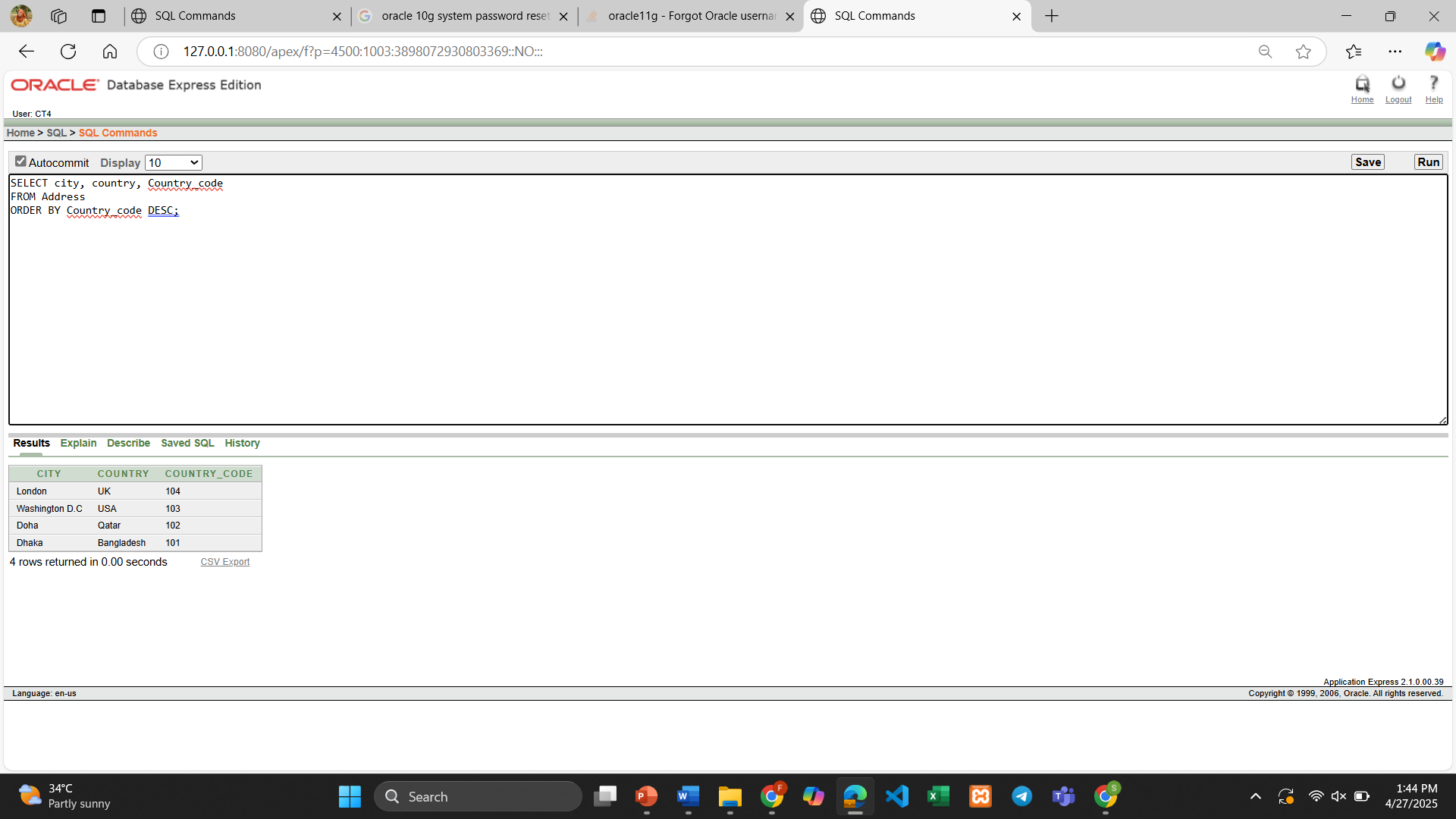
1. Display the city, country, country\_code and those must be shown from highest numbered country code to lowest numbered country code.

**SQL:**

SELECT city, country, Country\_code

FROM Address

ORDER BY Country\_code DESC;



**PL/SQL:**

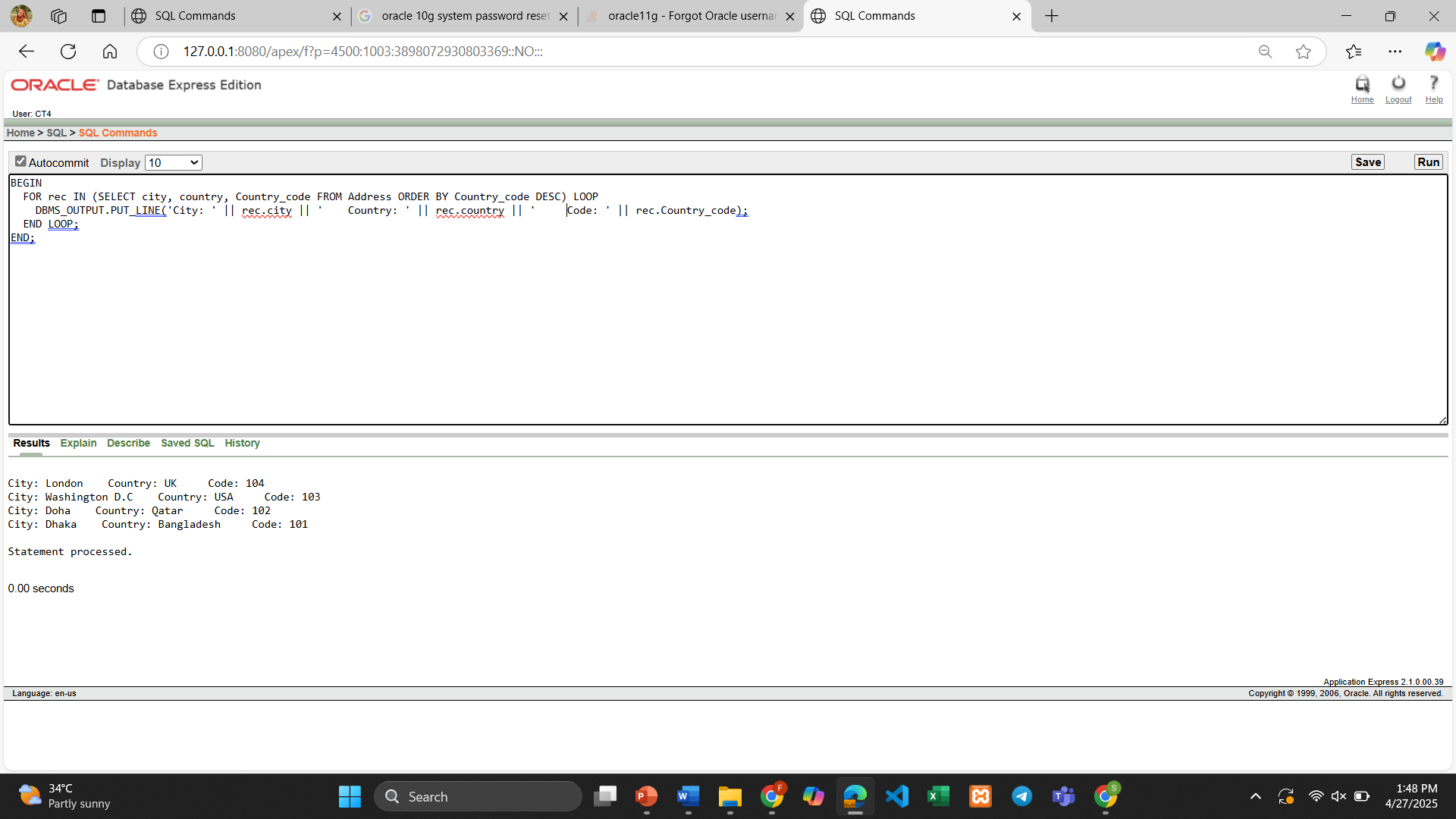
BEGIN

FOR rec IN (SELECT city, country, Country\_code FROM Address ORDER BY Country\_code DESC) LOOP

DBMS\_OUTPUT.PUT\_LINE('City: ' || rec.city || ', Country: ' || rec.country || ', Code: ' || rec.Country\_code);

END LOOP;

END;



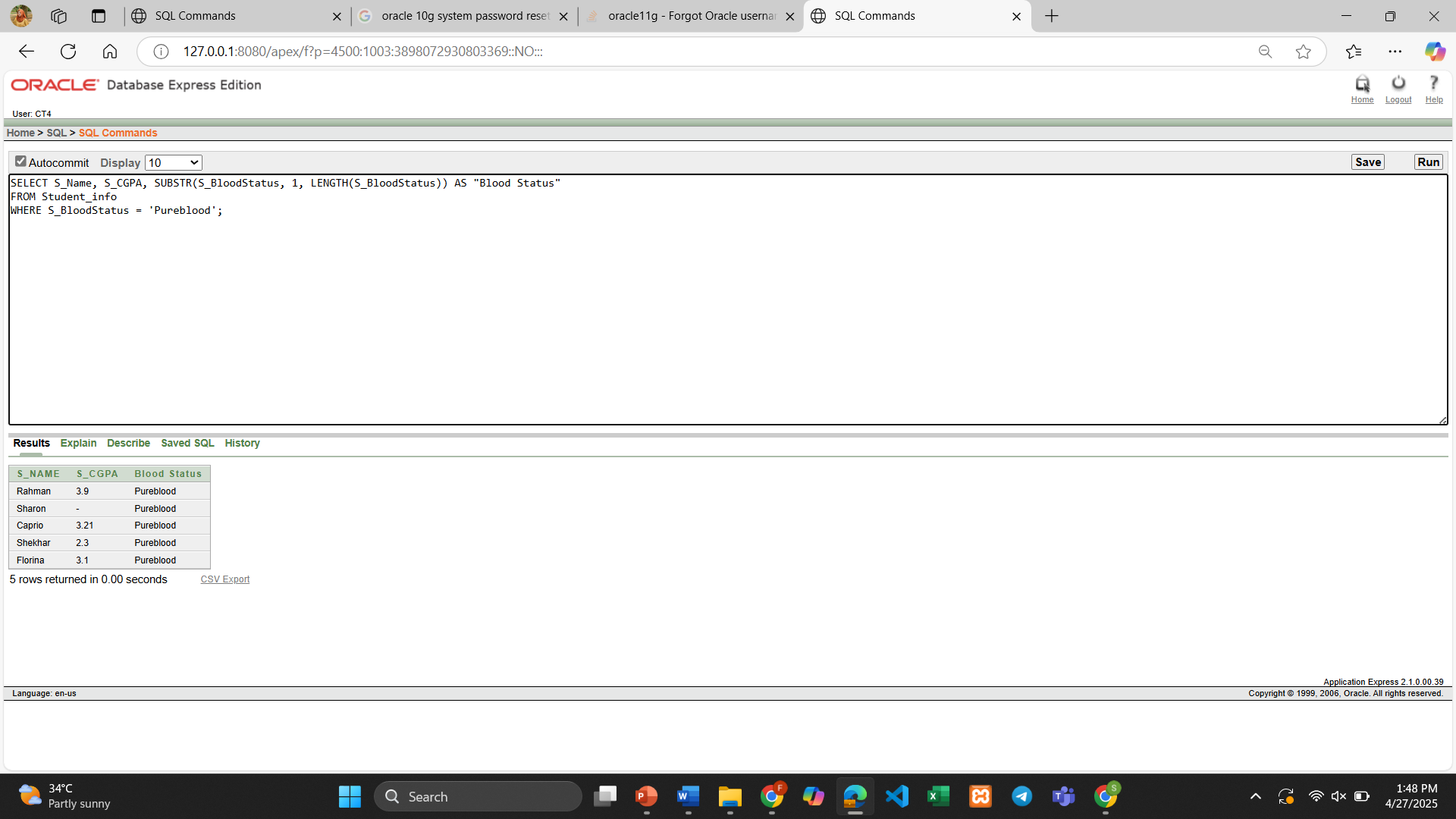
1. Display the student name, student CGPA and student blood status together where the blood status is pureblood using SUBSTR.

**SQL:**

SELECT S\_Name, S\_CGPA, SUBSTR(S\_BloodStatus, 1, LENGTH(S\_BloodStatus)) AS "Blood Status"

FROM Student\_info

WHERE S\_BloodStatus = 'Pureblood';



**PL/SQL:**

BEGIN

FOR rec IN (SELECT S\_Name, S\_CGPA, SUBSTR(S\_BloodStatus, 1, LENGTH(S\_BloodStatus)) AS BloodStatus

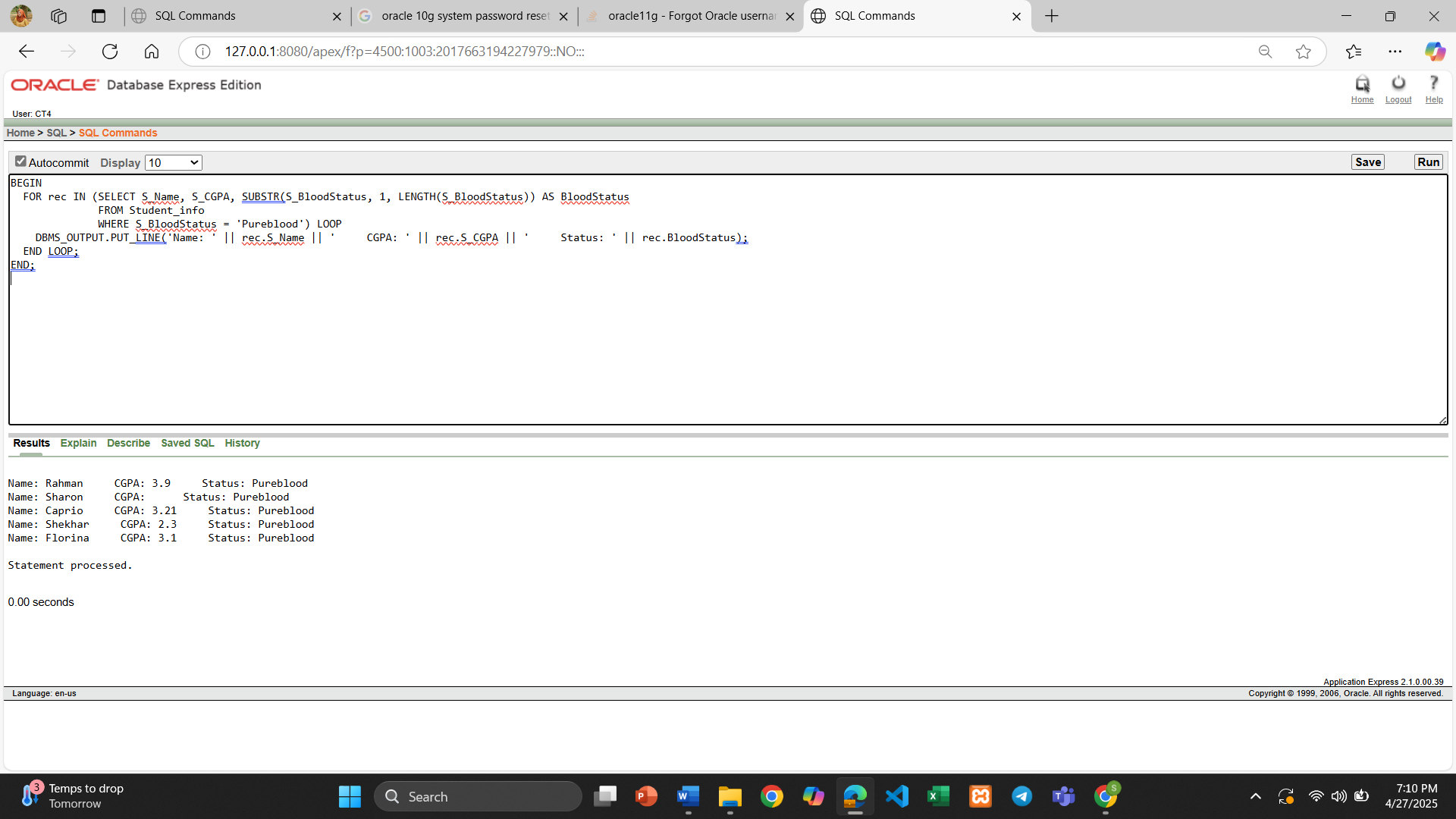
FROM Student\_info

WHERE S\_BloodStatus = 'Pureblood') LOOP

DBMS\_OUTPUT.PUT\_LINE('Name: ' || rec.S\_Name || ' CGPA: ' || rec.S\_CGPA || ' Status: ' || rec.BloodStatus);

END LOOP;

END;



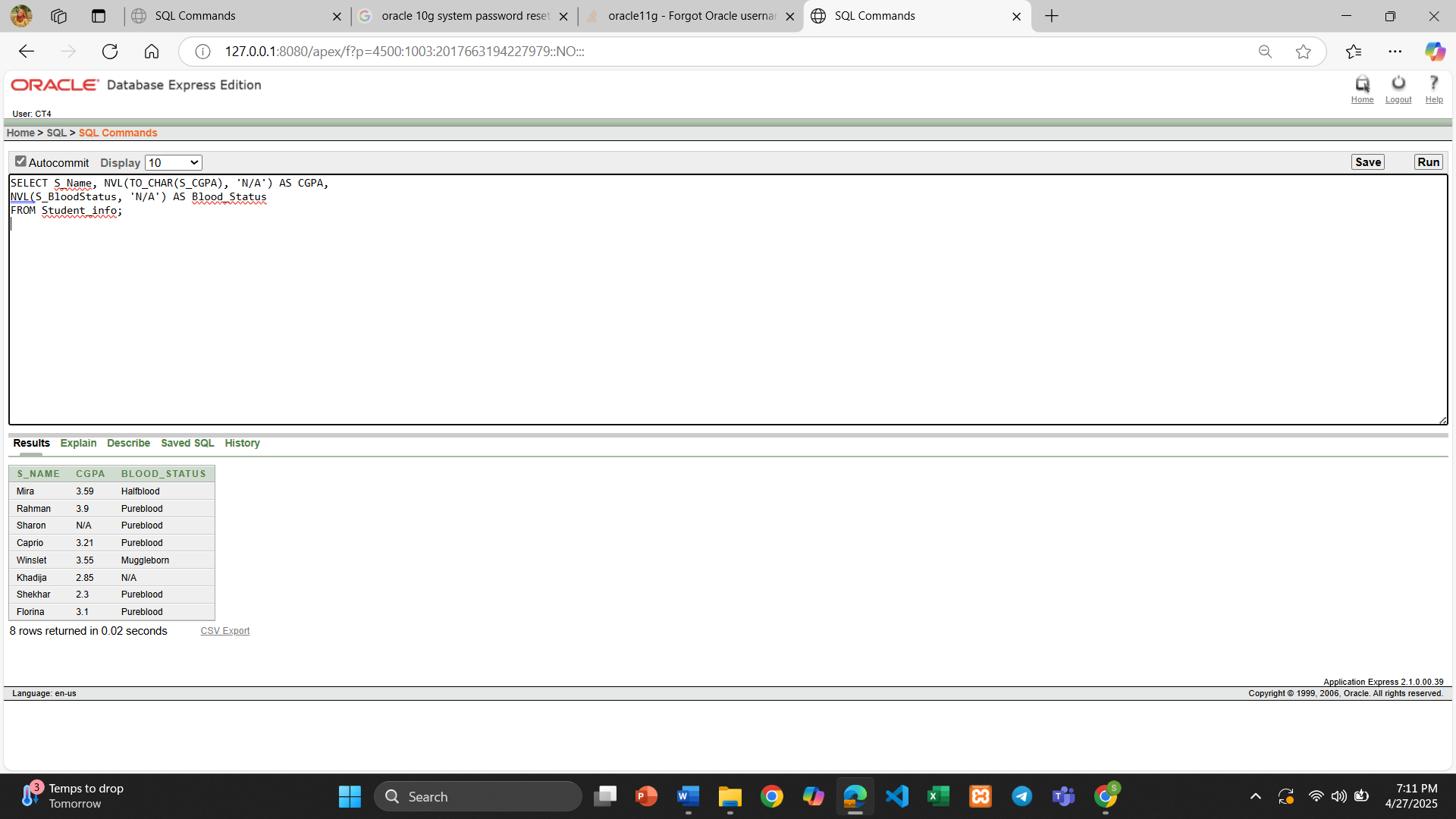
1. Show all the students with their CGPA and blood status. If there is any null value use NVL function.

**SQL:**

SELECT S\_Name, NVL(TO\_CHAR(S\_CGPA), 'N/A') AS CGPA,

NVL(S\_BloodStatus, 'N/A') AS Blood\_Status

FROM Student\_info;



**PL/SQL:**

BEGIN

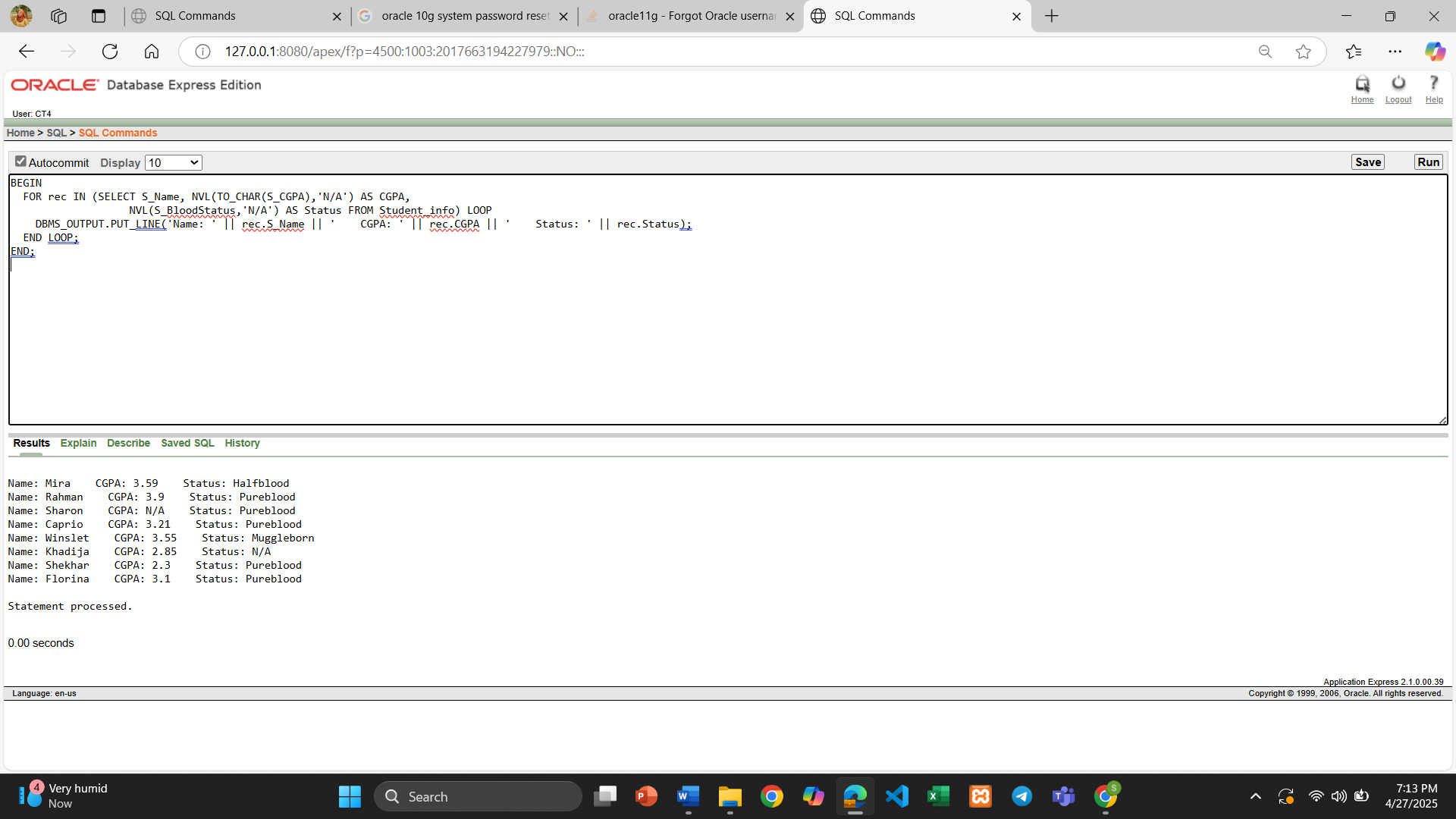
FOR rec IN (SELECT S\_Name, NVL(TO\_CHAR(S\_CGPA),'N/A') AS CGPA,

NVL(S\_BloodStatus,'N/A') AS Status FROM Student\_info) LOOP

DBMS\_OUTPUT.PUT\_LINE('Name: ' || rec.S\_Name || ' CGPA: ' || rec.CGPA || ' Status: ' || rec.Status);

END LOOP;

END;



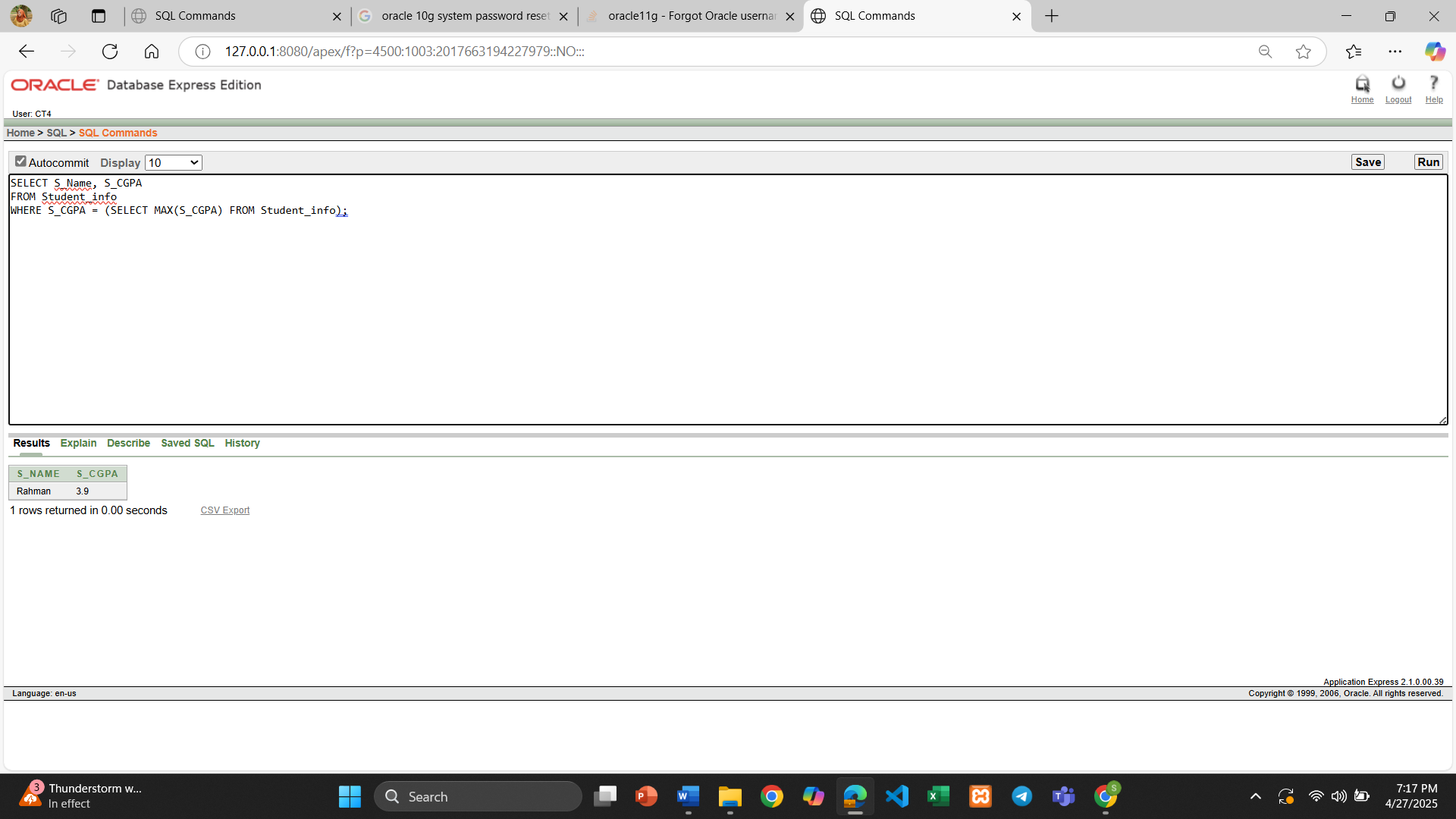
1. Find out the student who is holding maximum CGPA.

**SQL:**

SELECT S\_Name, S\_CGPA

FROM Student\_info

WHERE S\_CGPA = (SELECT MAX(S\_CGPA) FROM Student\_info);



**PL/SQL:**

BEGIN

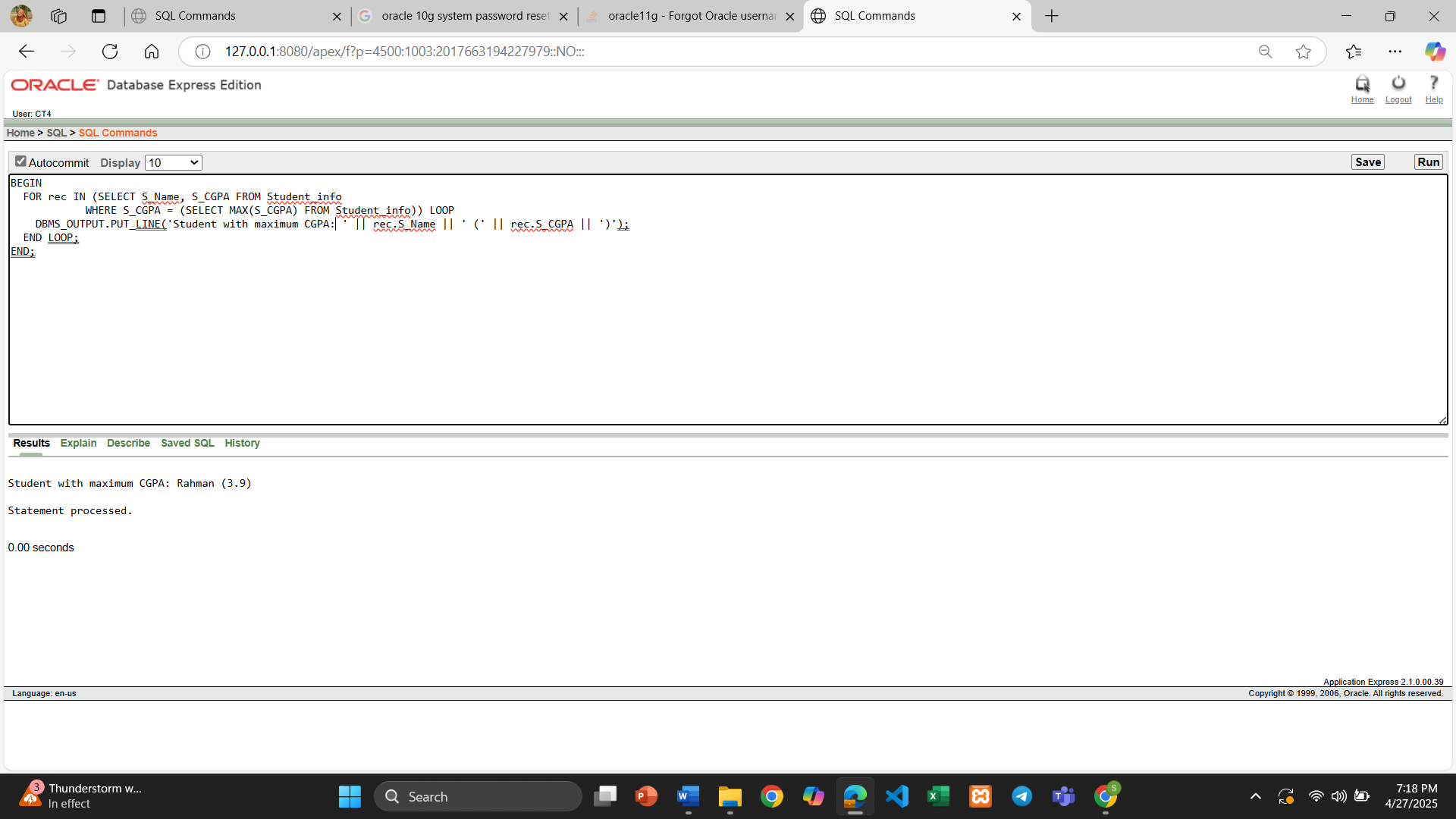
FOR rec IN (SELECT S\_Name, S\_CGPA FROM Student\_info

WHERE S\_CGPA = (SELECT MAX(S\_CGPA) FROM Student\_info)) LOOP

DBMS\_OUTPUT.PUT\_LINE('Student with maximum CGPA: ' || rec.S\_Name || ' (' || rec.S\_CGPA || ')');

END LOOP;

END;



**\*\*Solve the above questions (1 to 9) with SQL. Afterwards solve the same questions with PL/SQL. Write down the answer and give screenshot of the results of the query in a MS Word document. You must use Oracle 10g.The name of the document MUST be your ID (solutions MUST be numbered accordingly) and upload it in the provided link in your VUES account**