**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 |

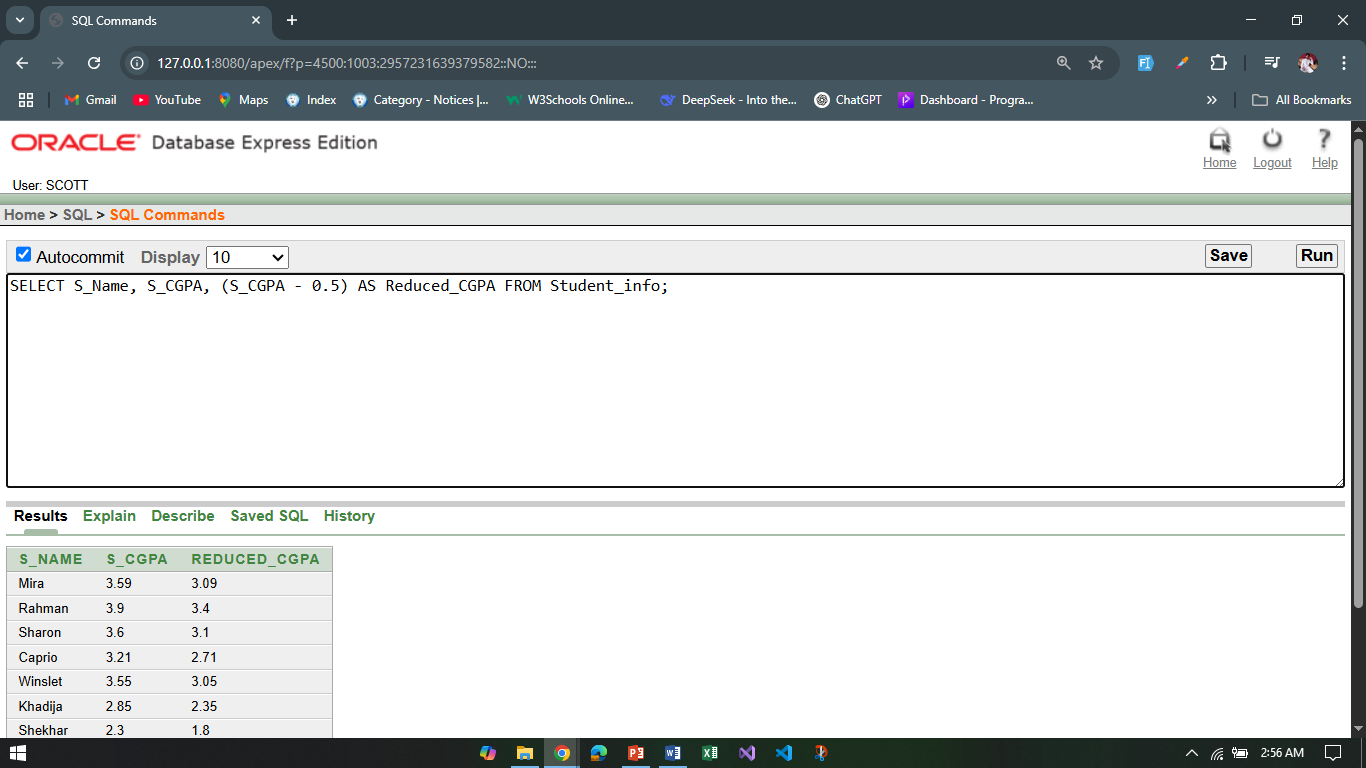
Write down the queries of the following questions:

**SQL:**

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

**Answer:**

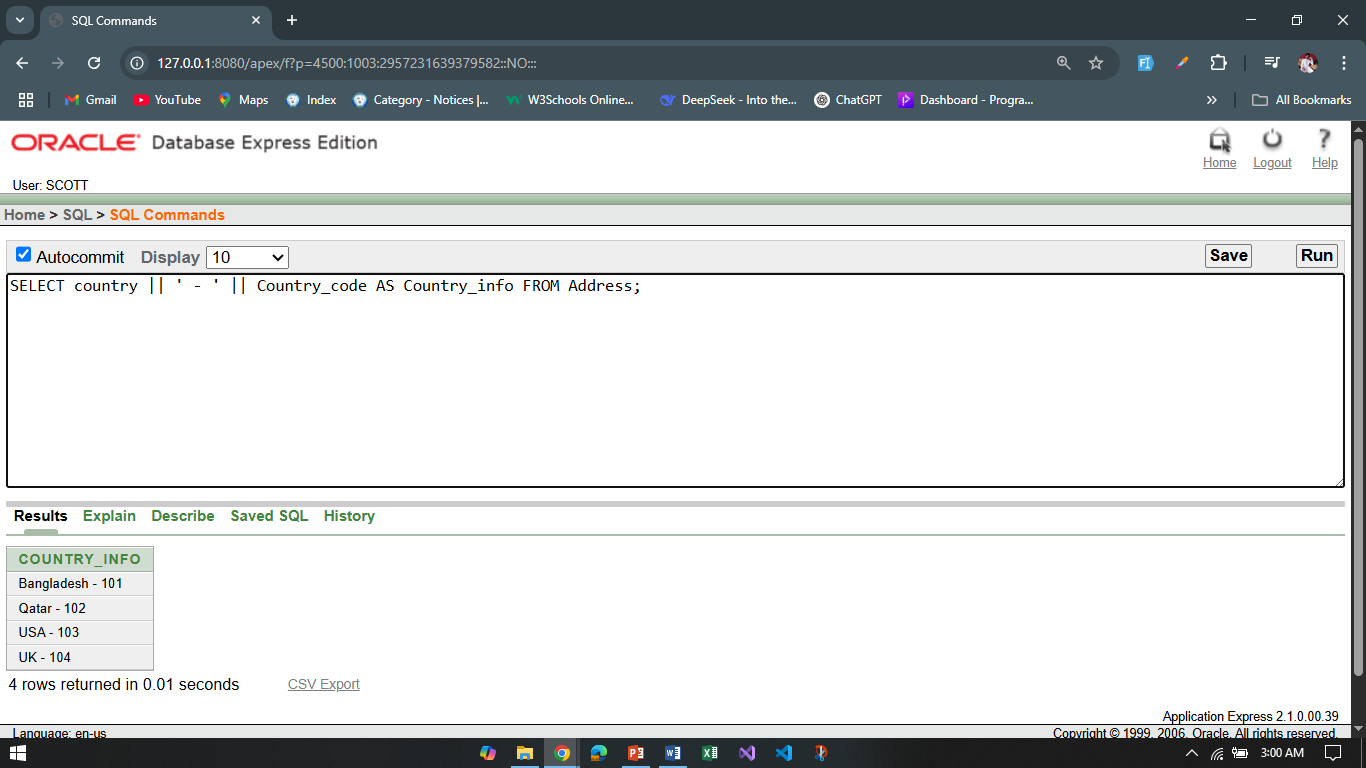
SELECT S\_Name, S\_CGPA, (S\_CGPA - 0.5) AS Reduced\_CGPA FROM Student\_info;



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

**Answer:**

SELECT country || ' - ' || Country\_code AS Country\_info FROM Address;

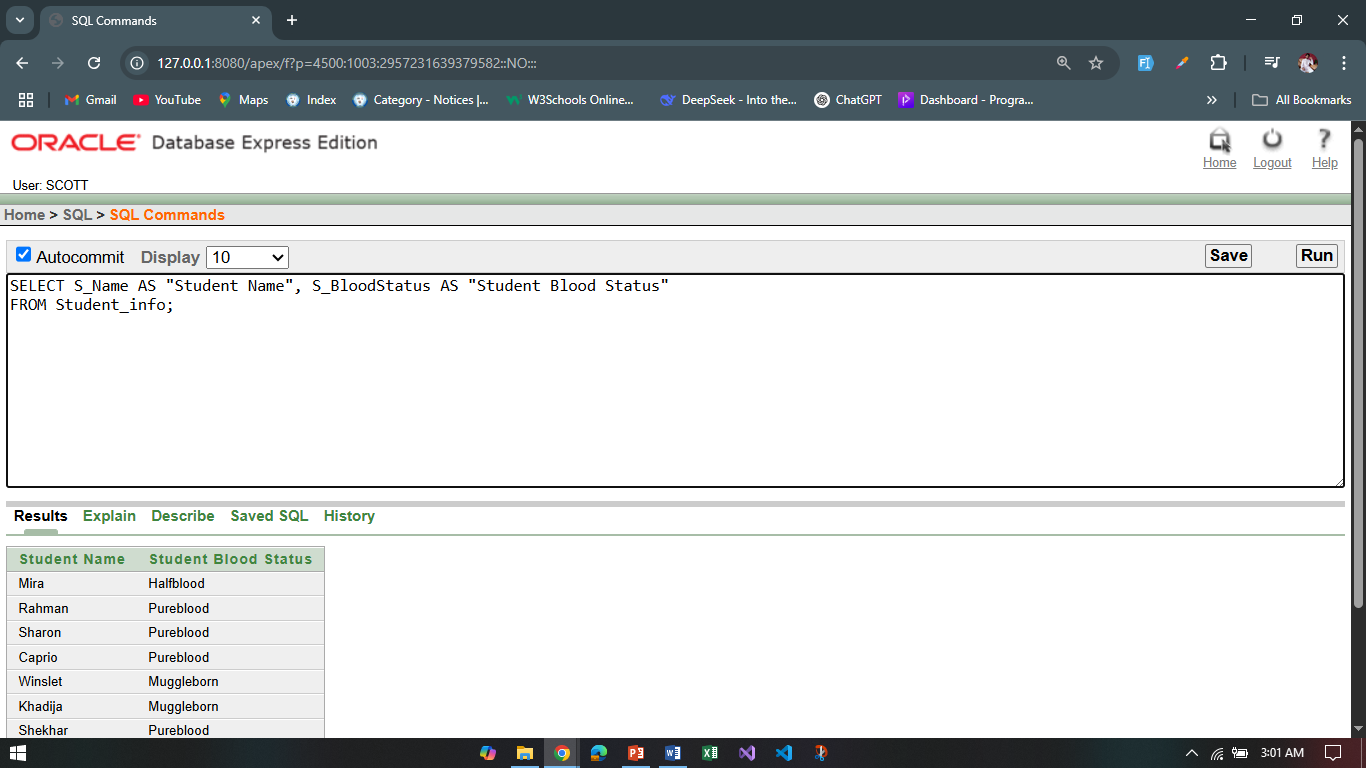


1. Display the student name and student blood status with the column name “Student Name” and “Student Blood Status” from Student\_info.

**Answer:**

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

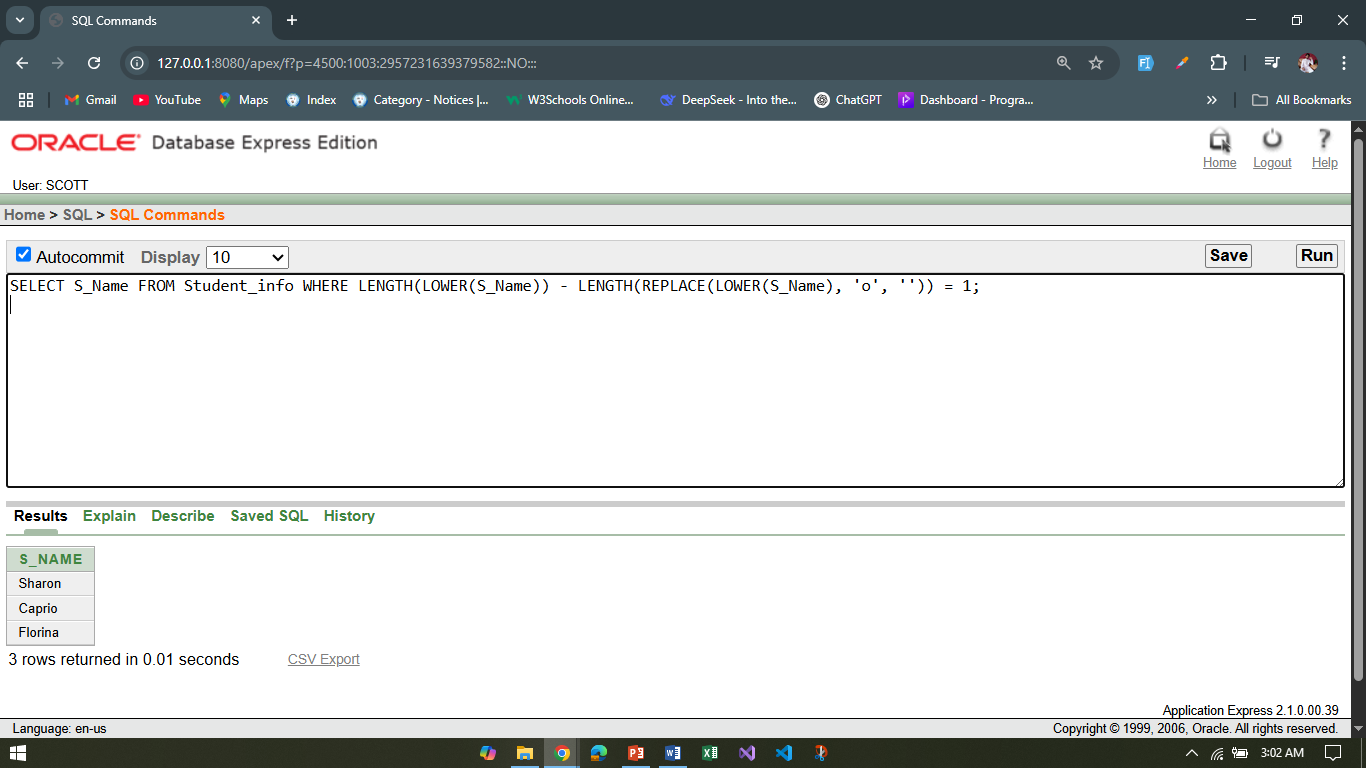
FROM Student\_info;



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

**Answer:**

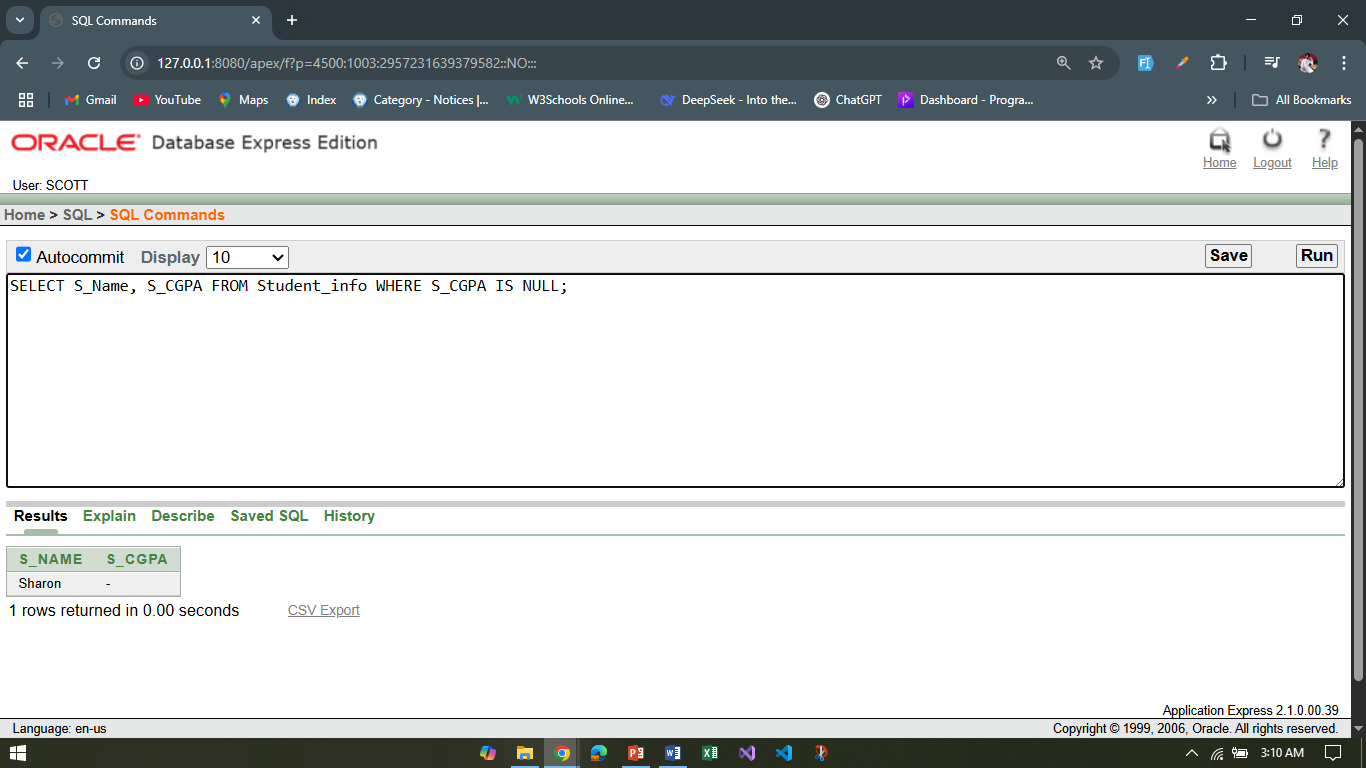
SELECT S\_Name FROM Student\_info WHERE LENGTH(LOWER(S\_Name)) - LENGTH(REPLACE(LOWER(S\_Name), 'o', '')) = 1;



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

**Answer:**

SELECT S\_Name, S\_CGPA FROM Student\_info WHERE S\_CGPA IS NULL;



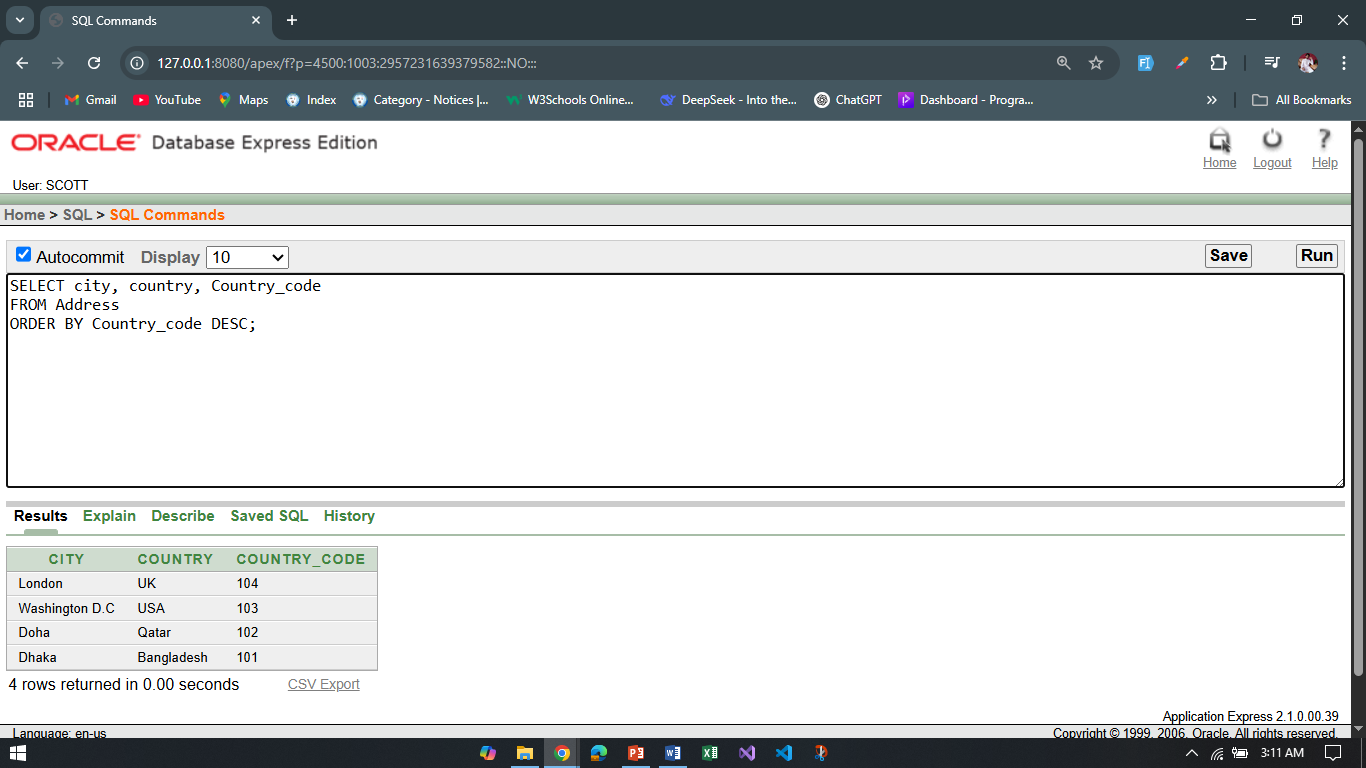
1. Display the city, country, country\_code and those must be shown from highest numbered country code to lowest numbered country code.

**Answer:**

SELECT city, country, Country\_code

FROM Address

ORDER BY Country\_code DESC;



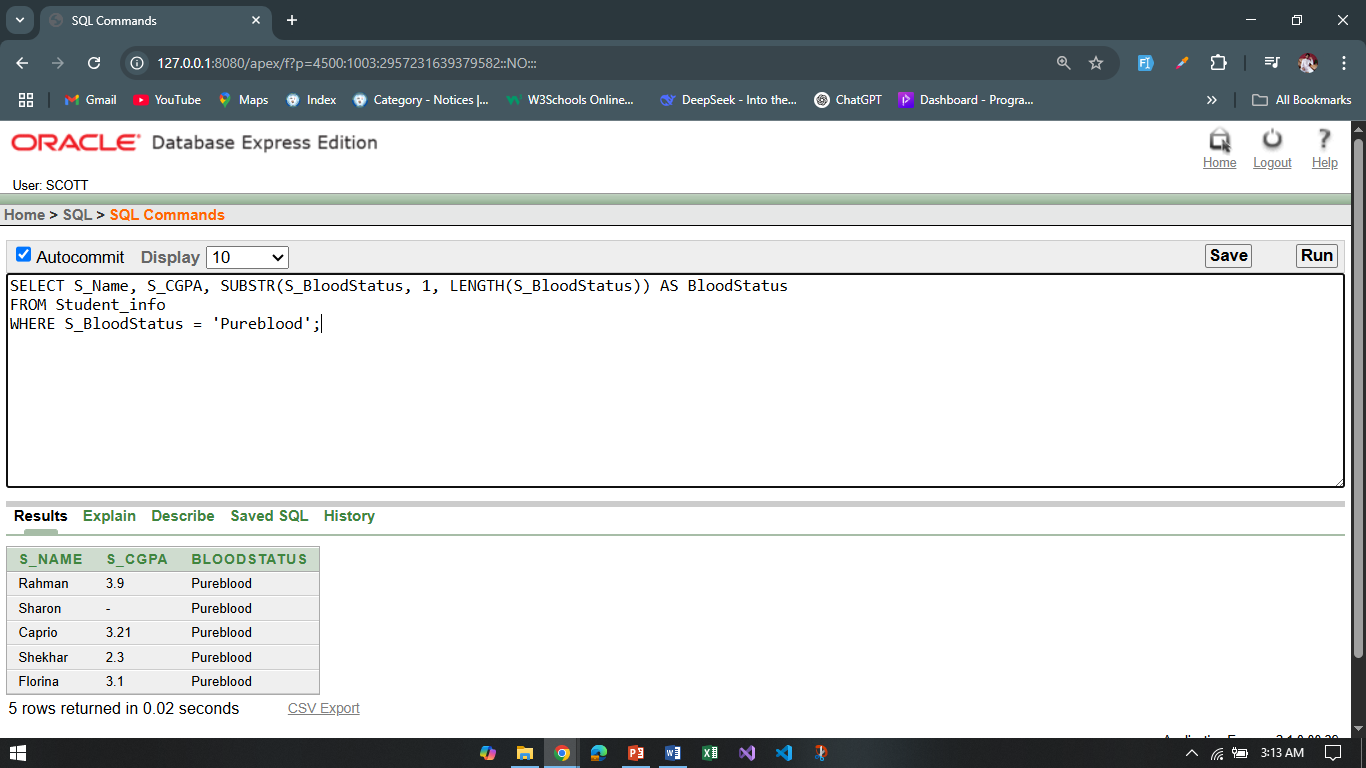
1. Display the student name, student CGPA and student blood status together where the blood status is pureblood using SUBSTR.

**Answer:**

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

FROM Student\_info

WHERE S\_BloodStatus = 'Pureblood';



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

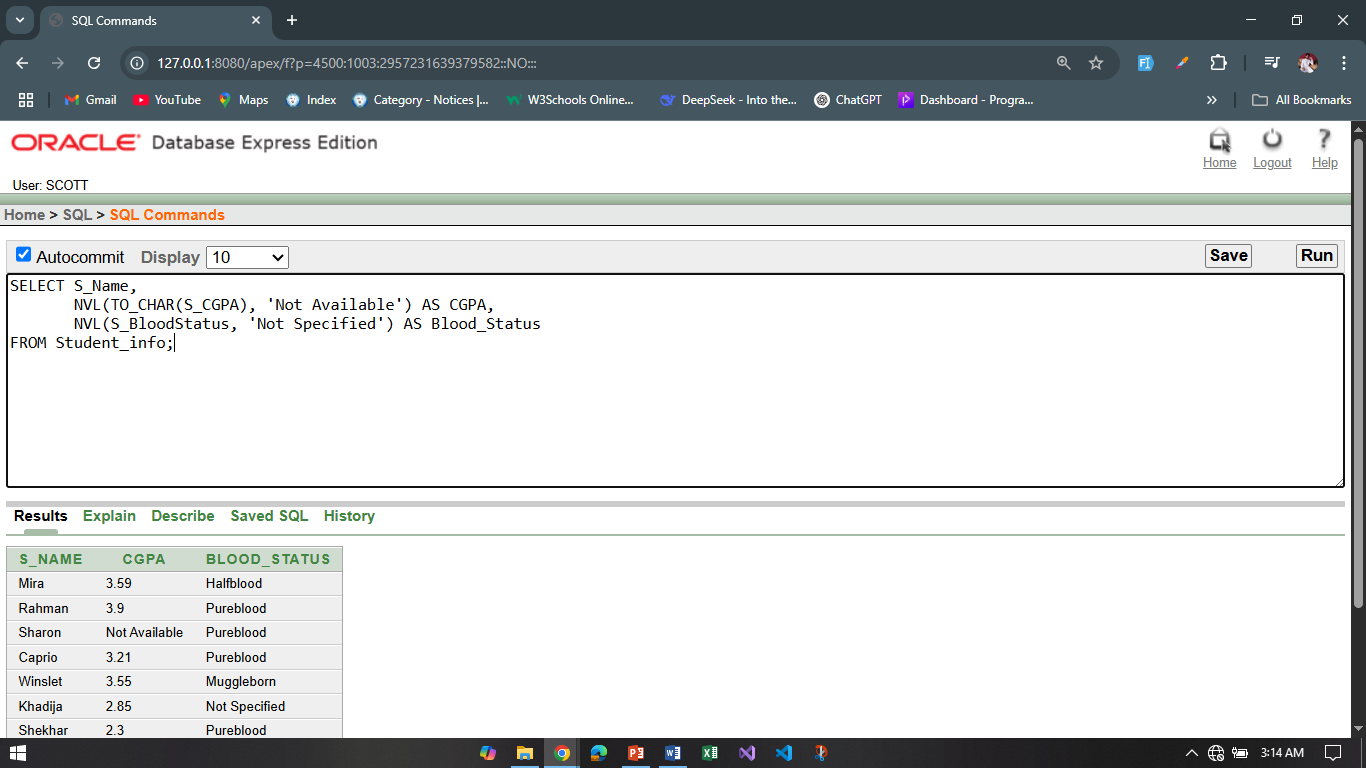
**Answer:**

SELECT S\_Name,

NVL(TO\_CHAR(S\_CGPA), 'Not Available') AS CGPA,

NVL(S\_BloodStatus, 'Not Specified') AS Blood\_Status

FROM Student\_info;



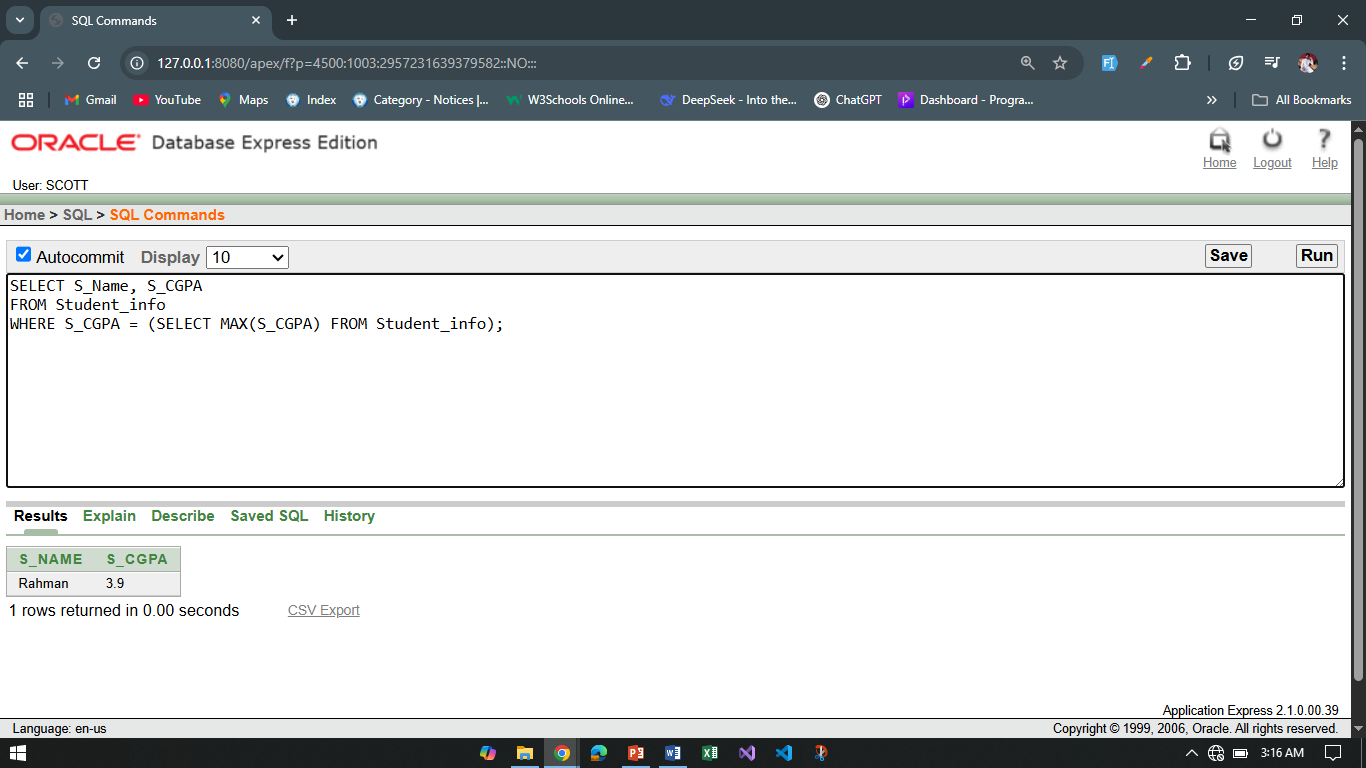
1. Find out the student who is holding maximum CGPA.

Answer:

SELECT S\_Name, S\_CGPA

FROM Student\_info

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



**PL SQL:**

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

**Answer:**

BEGIN

FOR stu IN (SELECT S\_Name, S\_CGPA FROM Student\_info) LOOP

dbms\_output.put\_line('Name: ' || stu.S\_Name);

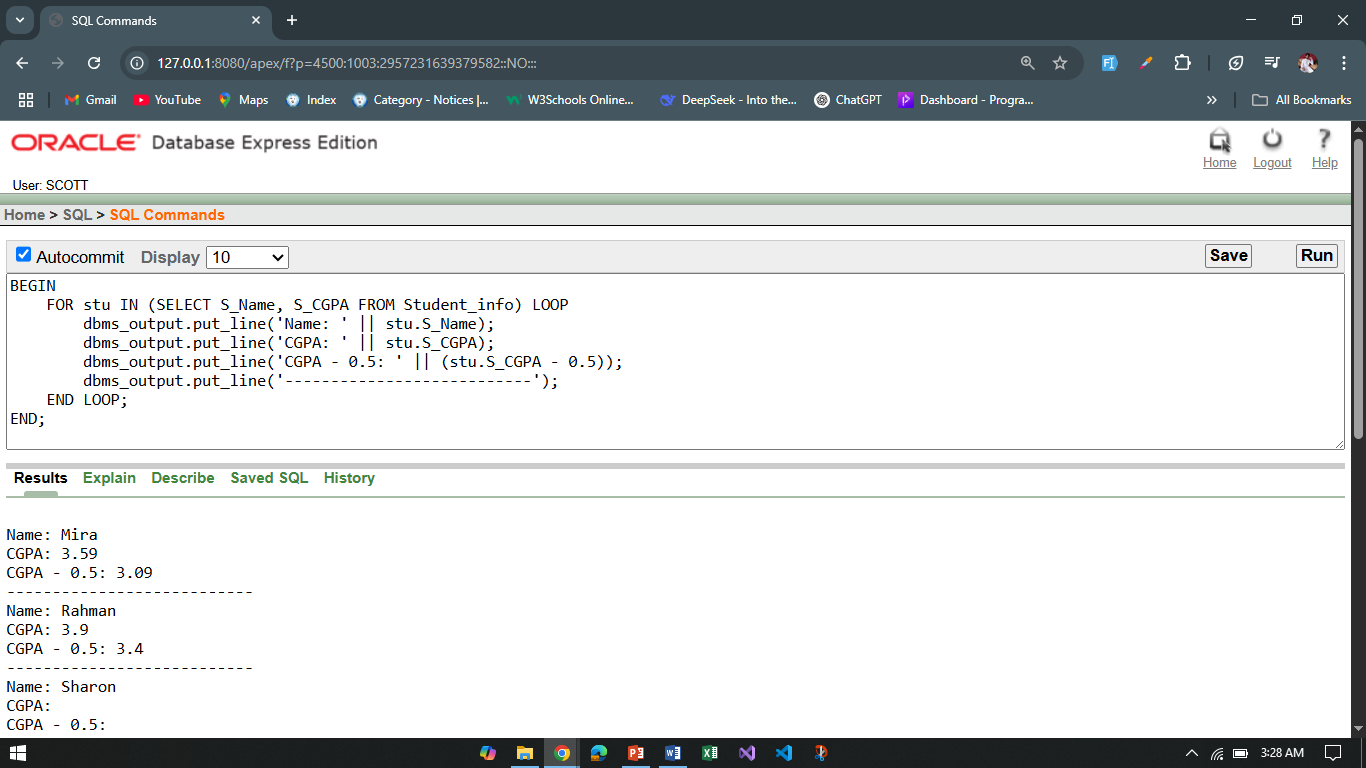
dbms\_output.put\_line('CGPA: ' || stu.S\_CGPA);

dbms\_output.put\_line('CGPA - 0.5: ' || (stu.S\_CGPA - 0.5));

dbms\_output.put\_line('---------------------------');

END LOOP;

END;



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

**Answer:**

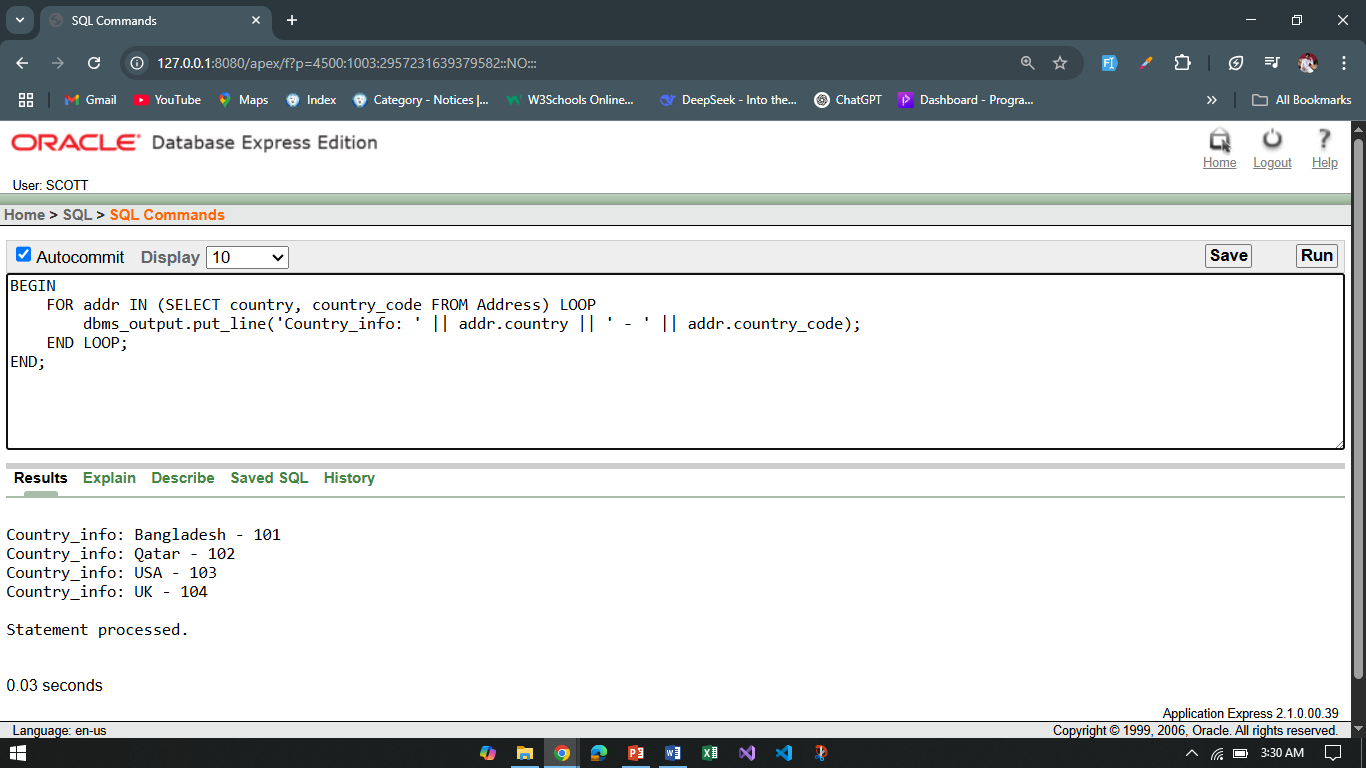
BEGIN

FOR addr IN (SELECT country, country\_code FROM Address) LOOP

dbms\_output.put\_line('Country\_info: ' || addr.country || ' - ' || addr.country\_code);

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.

**Answer:**

BEGIN

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

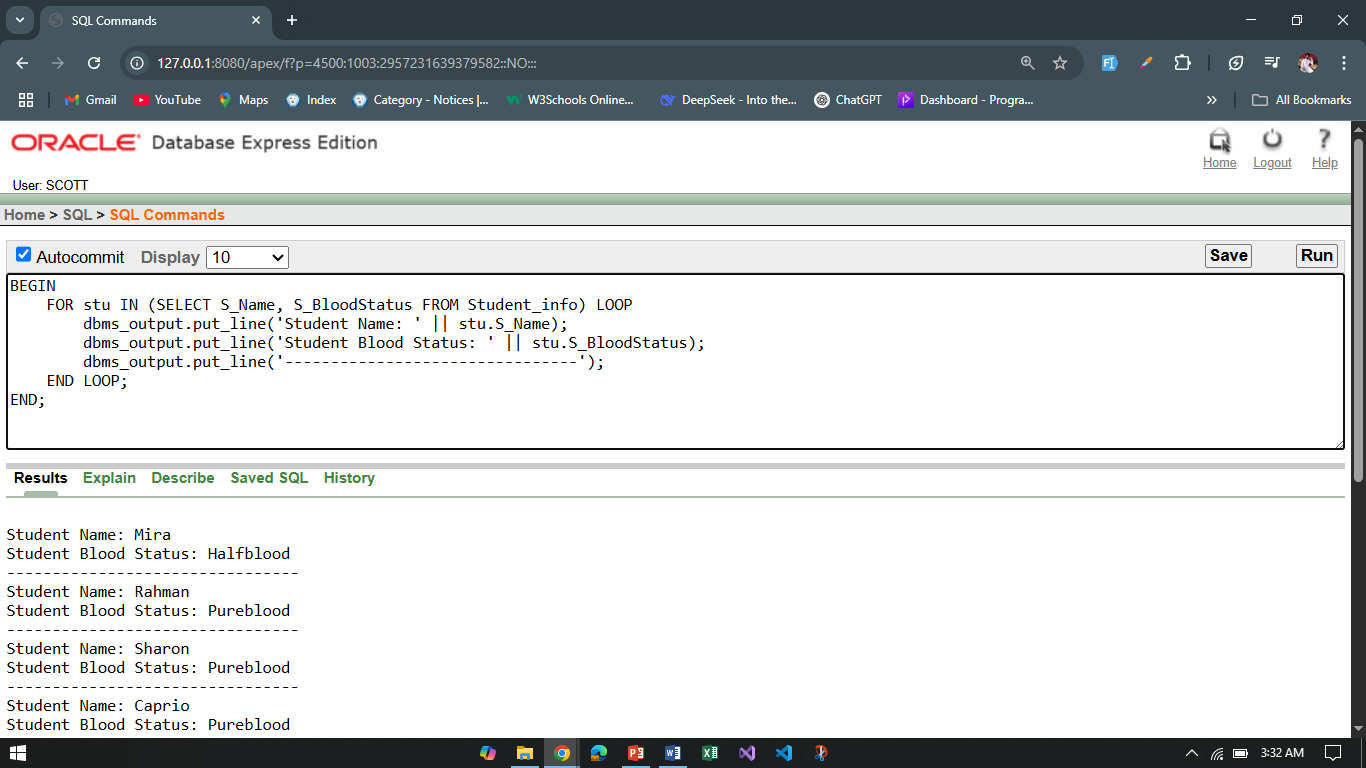
dbms\_output.put\_line('Student Name: ' || stu.S\_Name);

dbms\_output.put\_line('Student Blood Status: ' || stu.S\_BloodStatus);

dbms\_output.put\_line('--------------------------------');

END LOOP;

END;



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

**Answer:**

BEGIN

FOR stu IN (SELECT S\_Name FROM Student\_info) LOOP

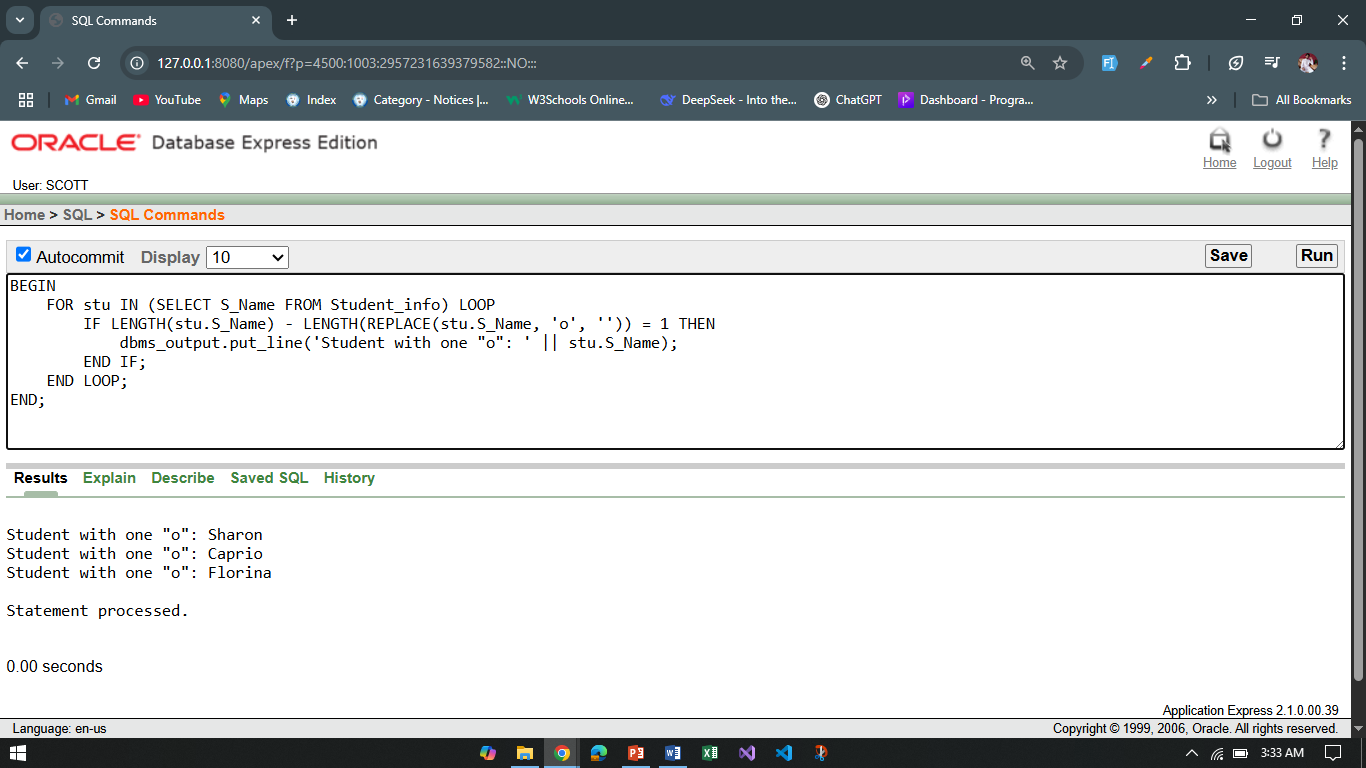
IF LENGTH(stu.S\_Name) - LENGTH(REPLACE(stu.S\_Name, 'o', '')) = 1 THEN

dbms\_output.put\_line('Student with one "o": ' || stu.S\_Name);

END IF;

END LOOP;

END;



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

**Answer:**

BEGIN

FOR stu IN (SELECT S\_Name, S\_CGPA FROM Student\_info) LOOP

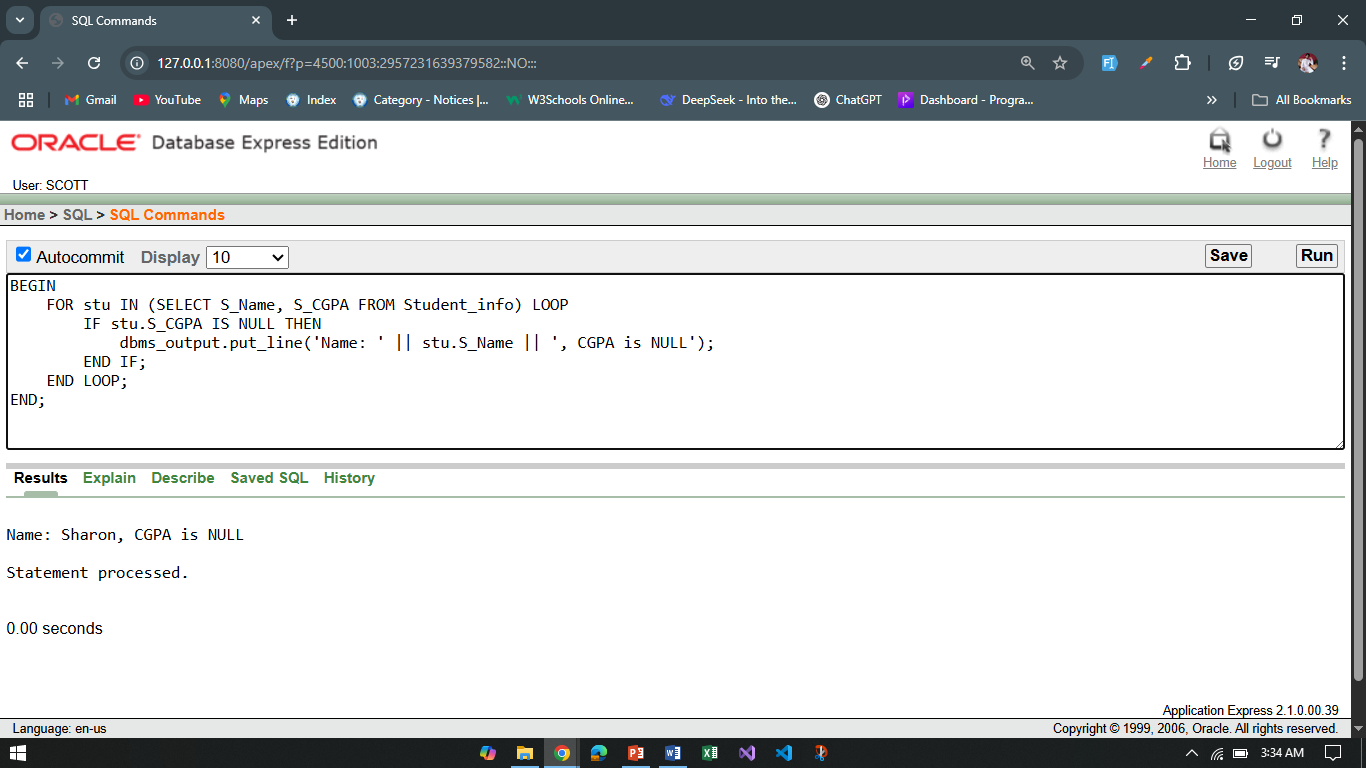
IF stu.S\_CGPA IS NULL THEN

dbms\_output.put\_line('Name: ' || stu.S\_Name || ', CGPA is NULL');

END IF;

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.

**Answer:**

BEGIN

FOR addr IN (

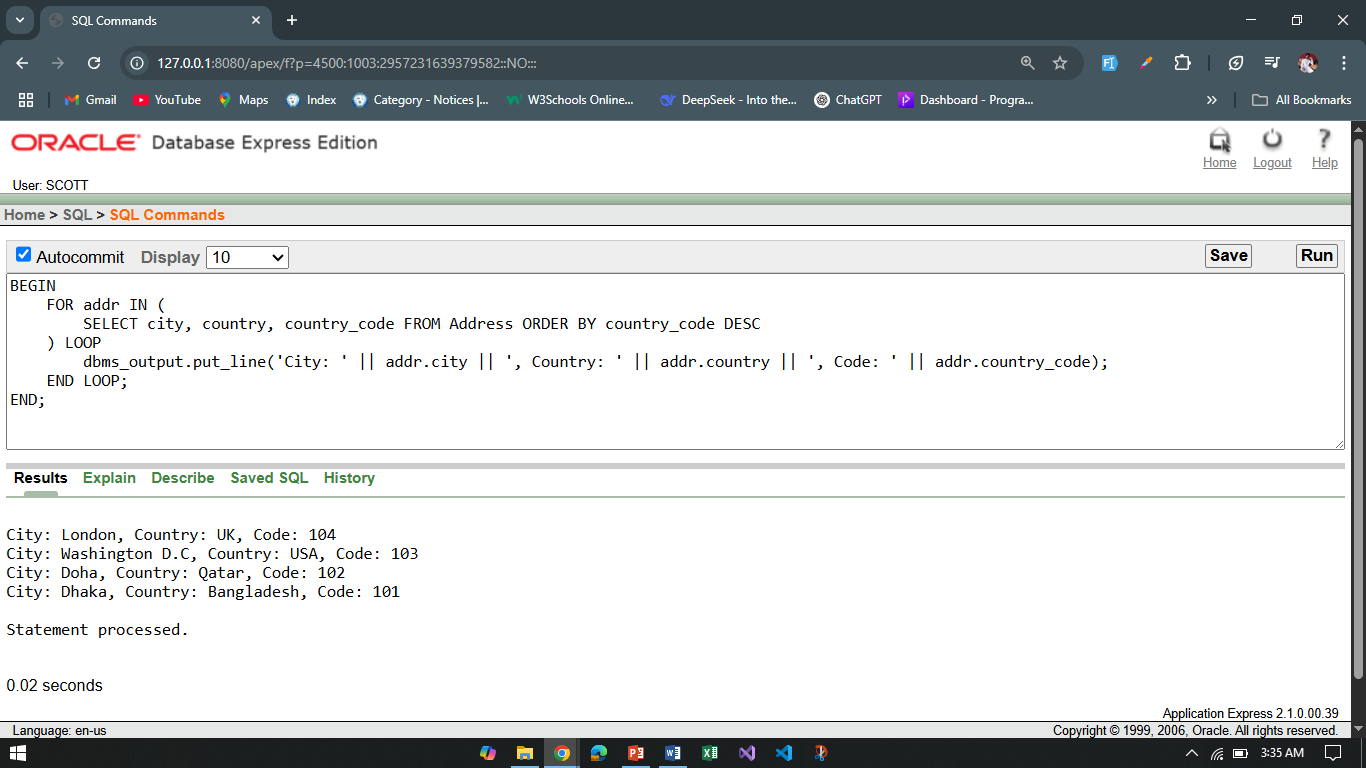
SELECT city, country, country\_code FROM Address ORDER BY country\_code DESC

) LOOP

dbms\_output.put\_line('City: ' || addr.city || ', Country: ' || addr.country || ', Code: ' || addr.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.

**Answer:**

BEGIN

FOR stu IN (

SELECT S\_Name, S\_CGPA, S\_BloodStatus FROM Student\_info WHERE S\_BloodStatus = 'Pureblood'

) LOOP

dbms\_output.put\_line('Name: ' || SUBSTR(stu.S\_Name, 1));

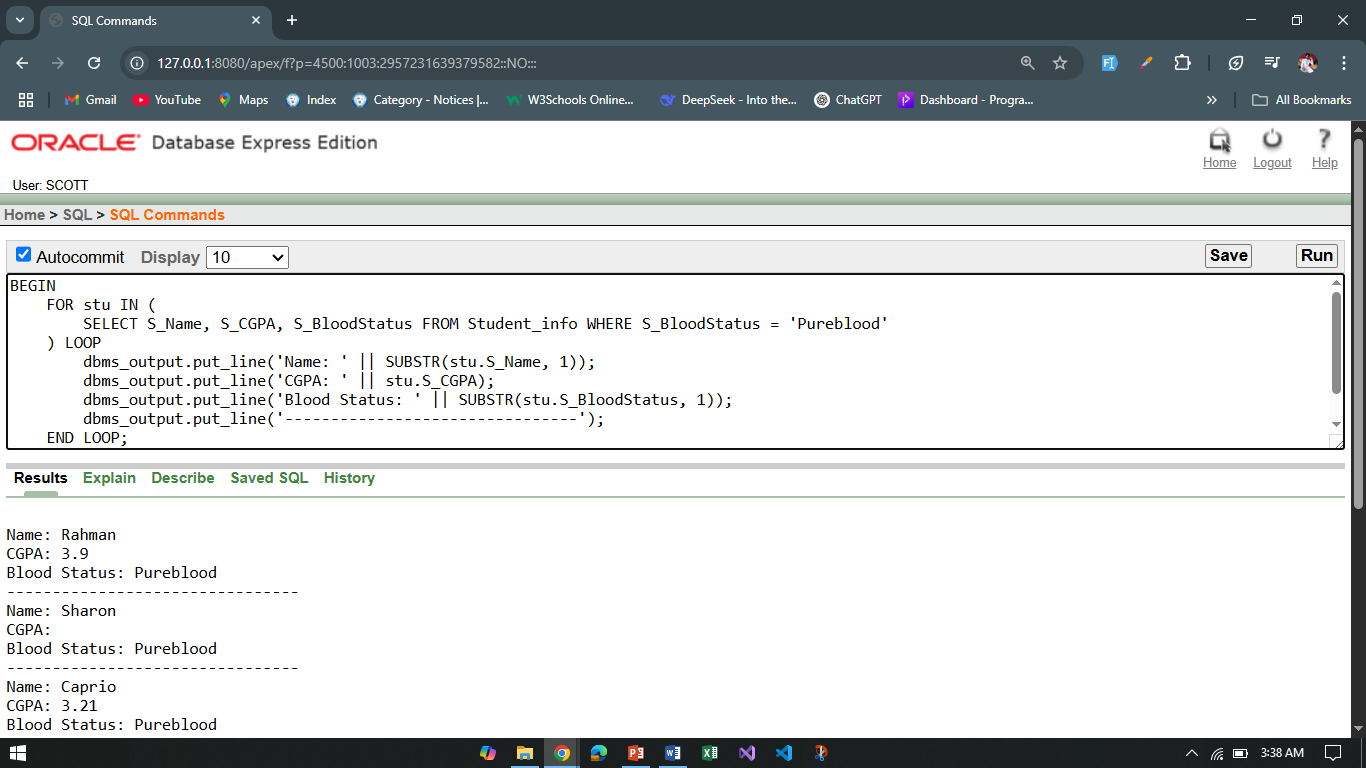
dbms\_output.put\_line('CGPA: ' || stu.S\_CGPA);

dbms\_output.put\_line('Blood Status: ' || SUBSTR(stu.S\_BloodStatus, 1));

dbms\_output.put\_line('--------------------------------');

END LOOP;

END;



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

**Answer:**

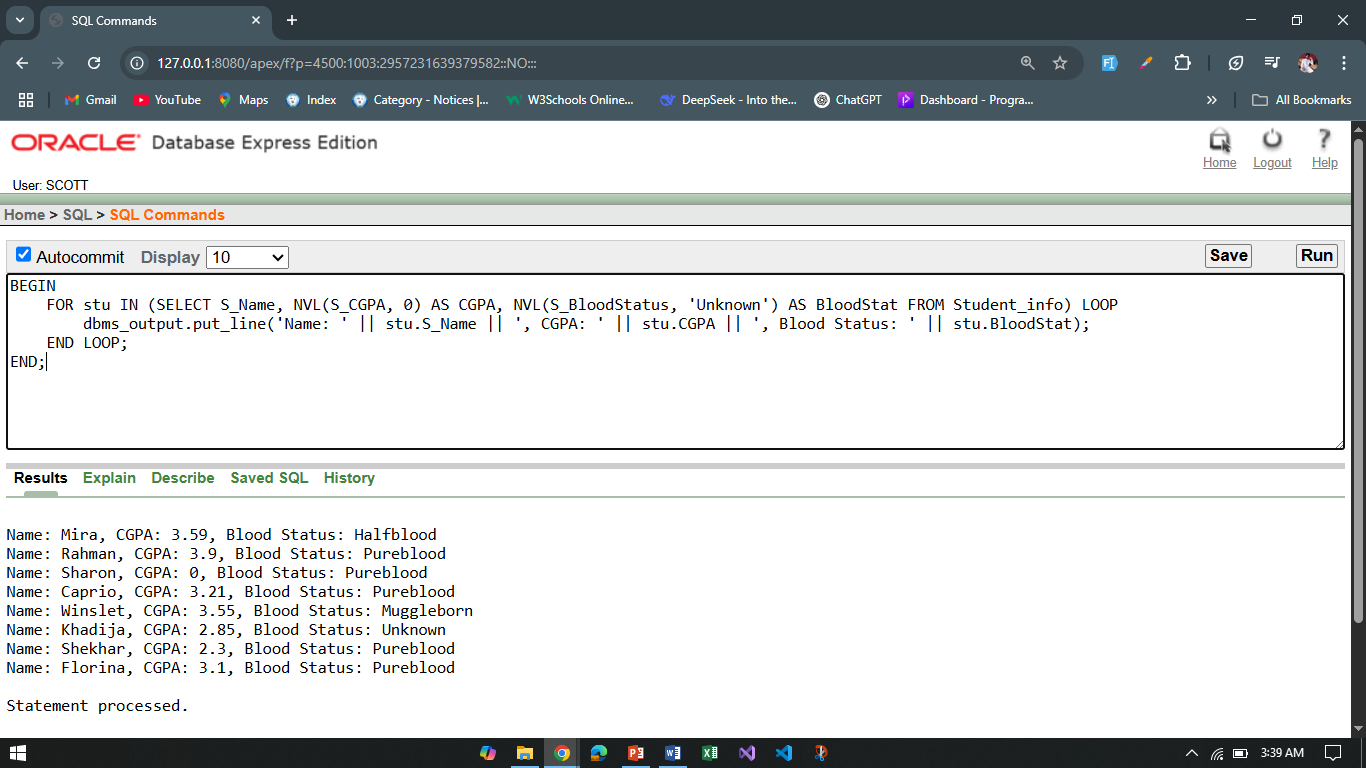
BEGIN

FOR stu IN (SELECT S\_Name, NVL(S\_CGPA, 0) AS CGPA, NVL(S\_BloodStatus, 'Unknown') AS BloodStat FROM Student\_info) LOOP

dbms\_output.put\_line('Name: ' || stu.S\_Name || ', CGPA: ' || stu.CGPA || ', Blood Status: ' || stu.BloodStat);

END LOOP;

END;



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

**Answer:**

DECLARE

max\_cgpa NUMBER;

student\_name VARCHAR2(50);

BEGIN

SELECT MAX(S\_CGPA) INTO max\_cgpa FROM Student\_info;

SELECT S\_Name INTO student\_name

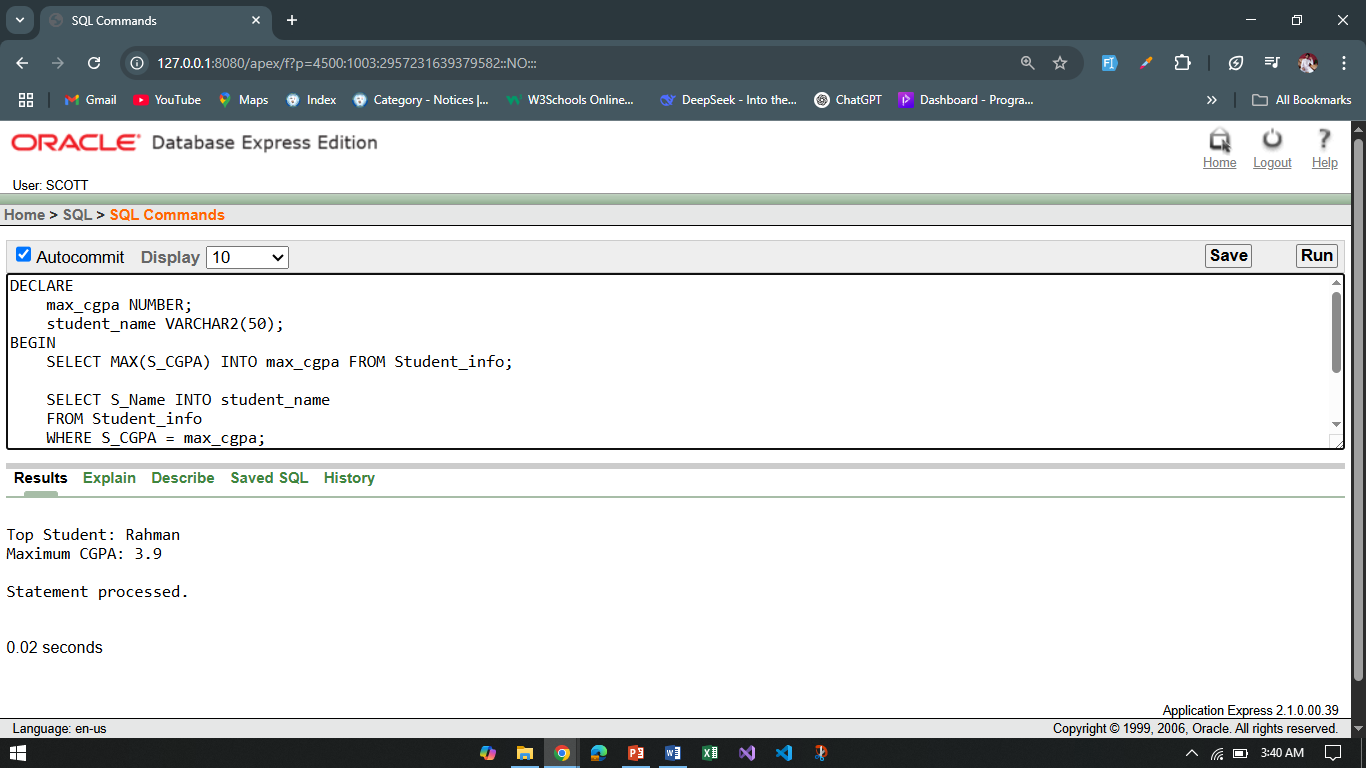
FROM Student\_info

WHERE S\_CGPA = max\_cgpa;

dbms\_output.put\_line('Top Student: ' || student\_name);

dbms\_output.put\_line('Maximum CGPA: ' || max\_cgpa);

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**