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

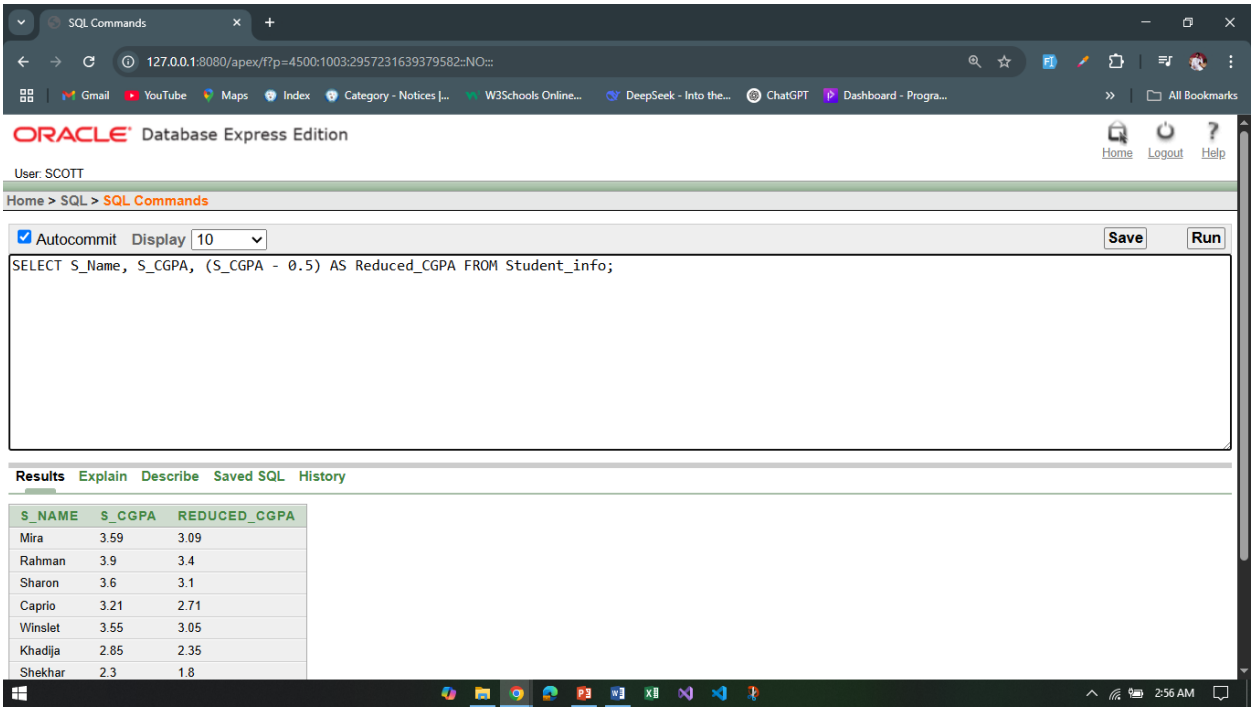
Table: Address

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:

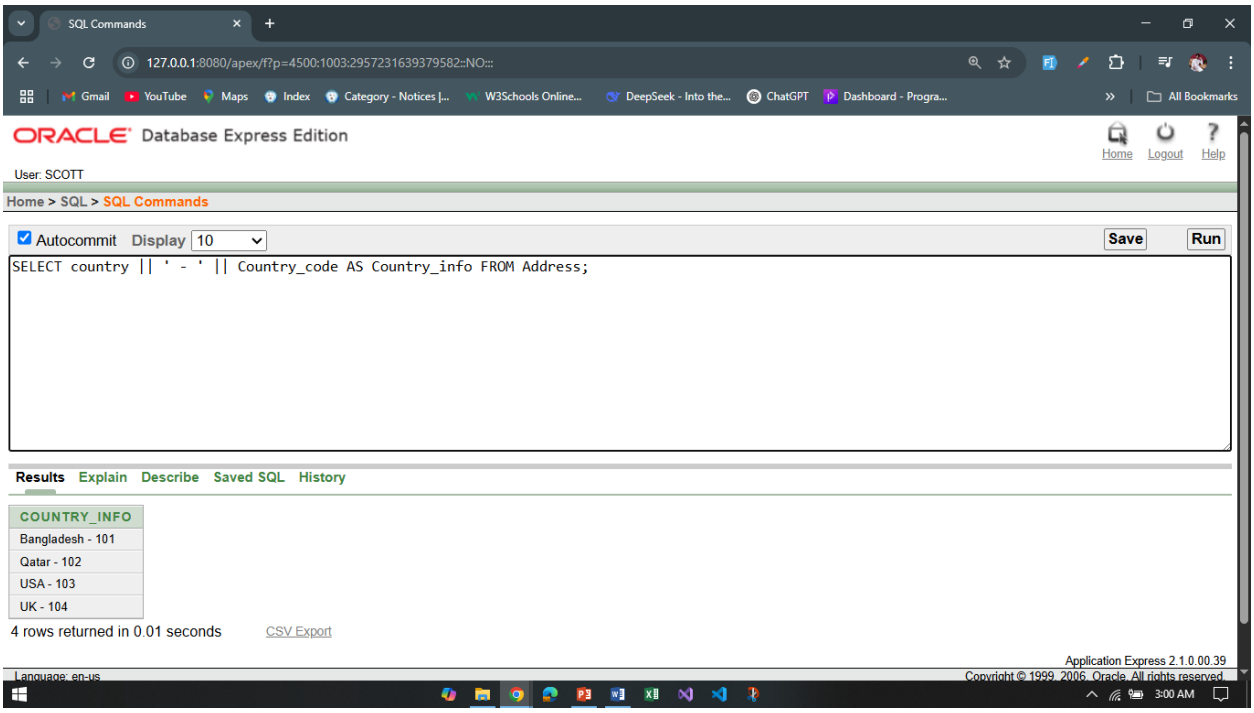
1. Display the name, CGPA, (CGPA-0.5) of the students from the Student_info table.
   Answer:
   SELECT S_Name, S_CGPA, (S_CGPA - 0.5) AS Reduced_CGPA FROM Student_info;



2. Display country and country code together as “Country_info” using concatenation function.

   Answer:

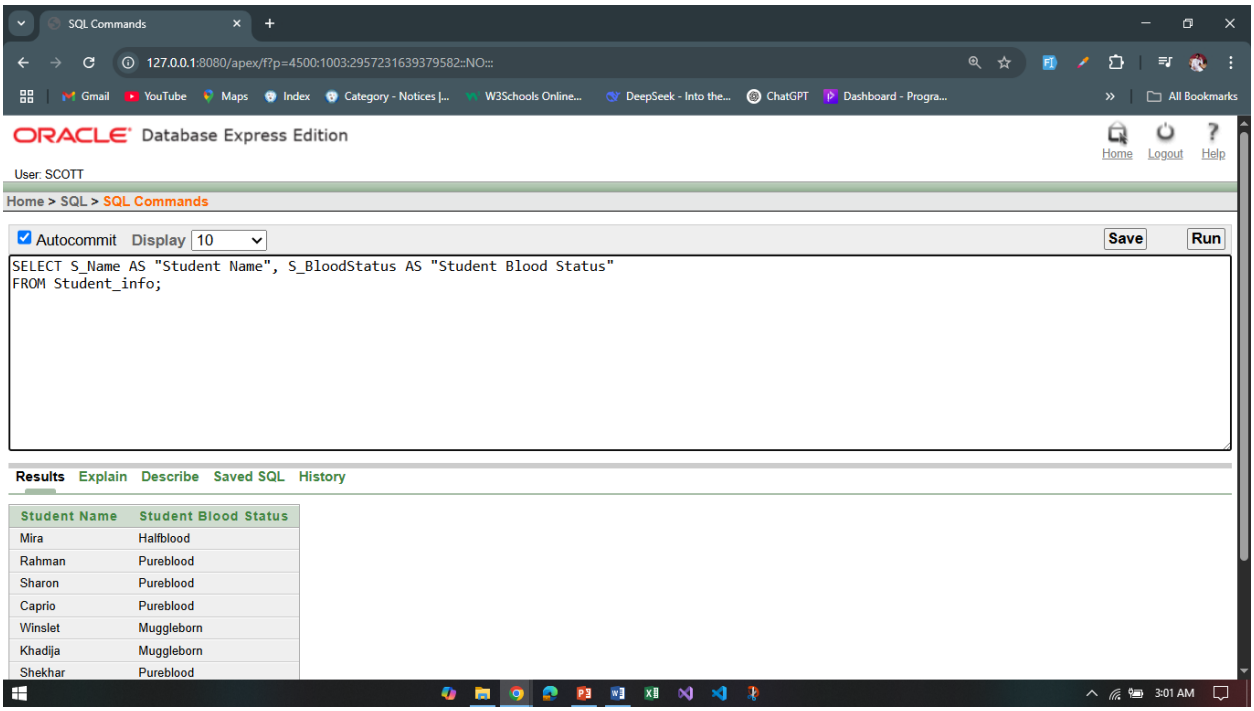
   SELECT country || ' - ' || Country_code AS Country_info FROM Address;



3. Display the student name and student blood status with the column name “Student Name” and “Student Blood Status” from Student_info.

Answer:

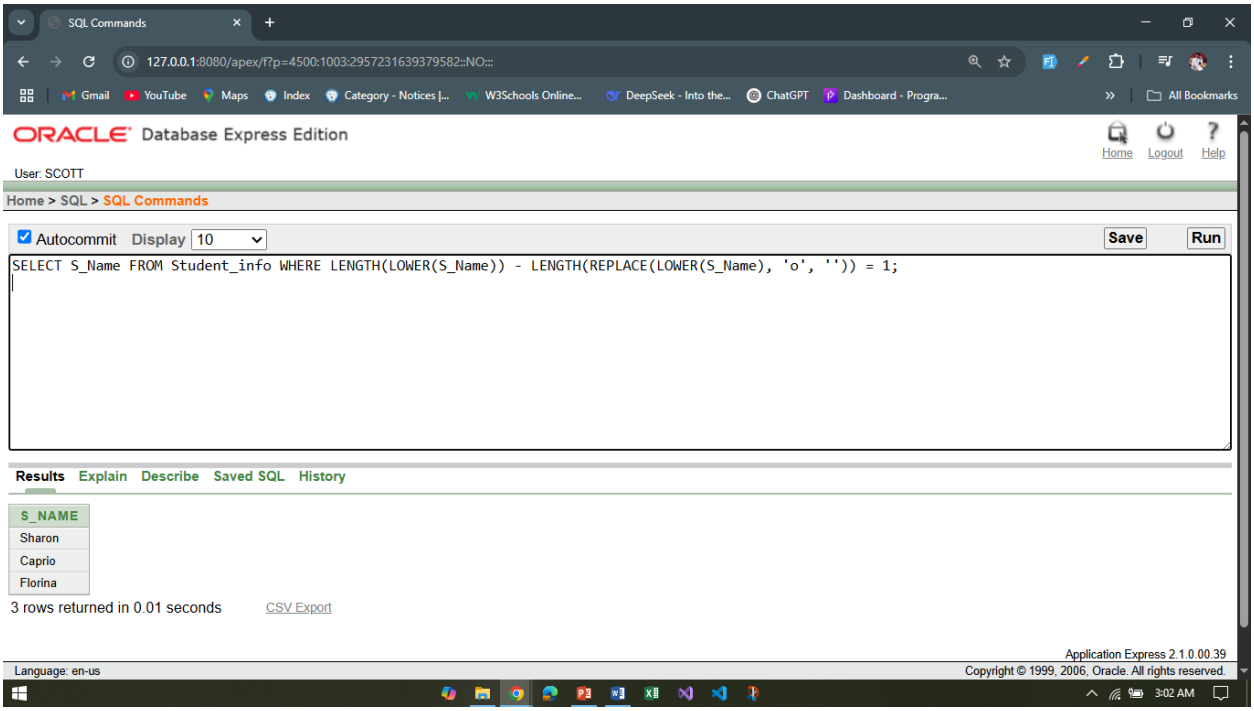
SELECT S_Name AS "Student Name", S_BloodStatus AS "Student Blood Status"
FROM Student_info;



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

Answer:

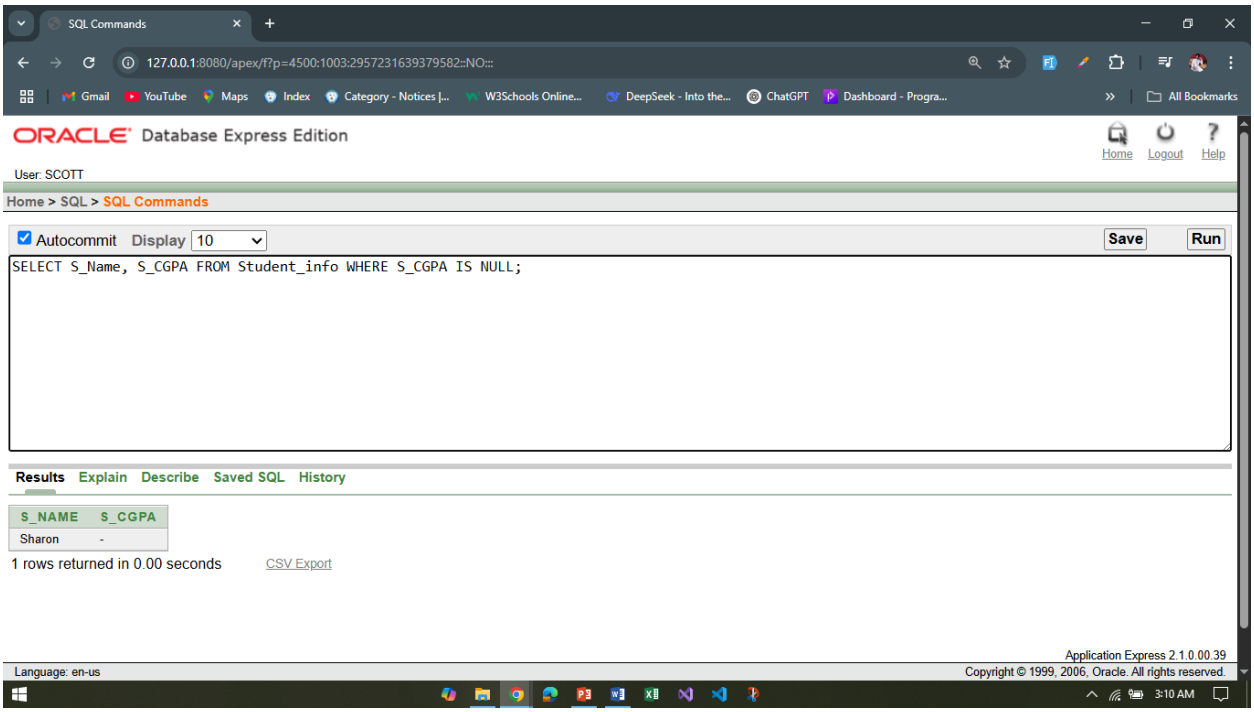
SELECT S_Name FROM Student_info WHERE LENGTH(LOWER(S_Name)) - LENGTH(REPLACE(LOWER(S_Name), 'o', '')) = 1;



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

   Answer:

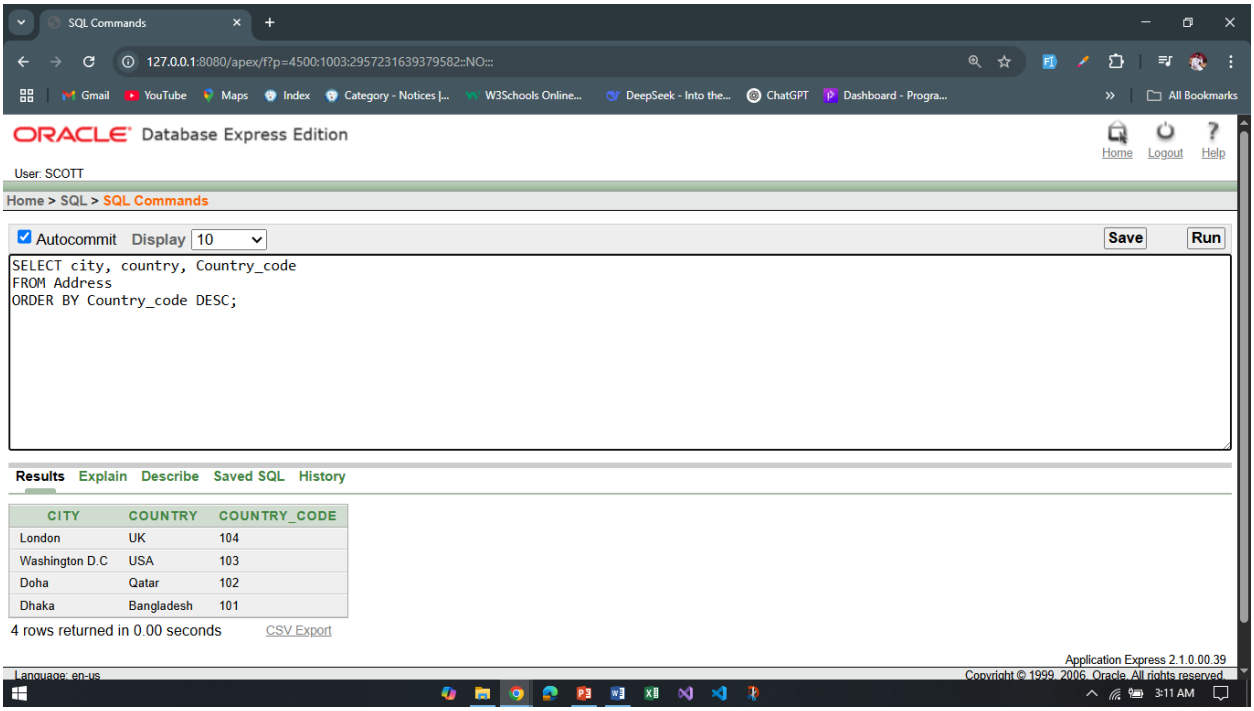
   SELECT S_Name, S_CGPA FROM Student_info WHERE S_CGPA IS NULL;



6. Display the city, country, country_code and those must be shown from highest numbered country code to lowest numbered country code.

Answer:

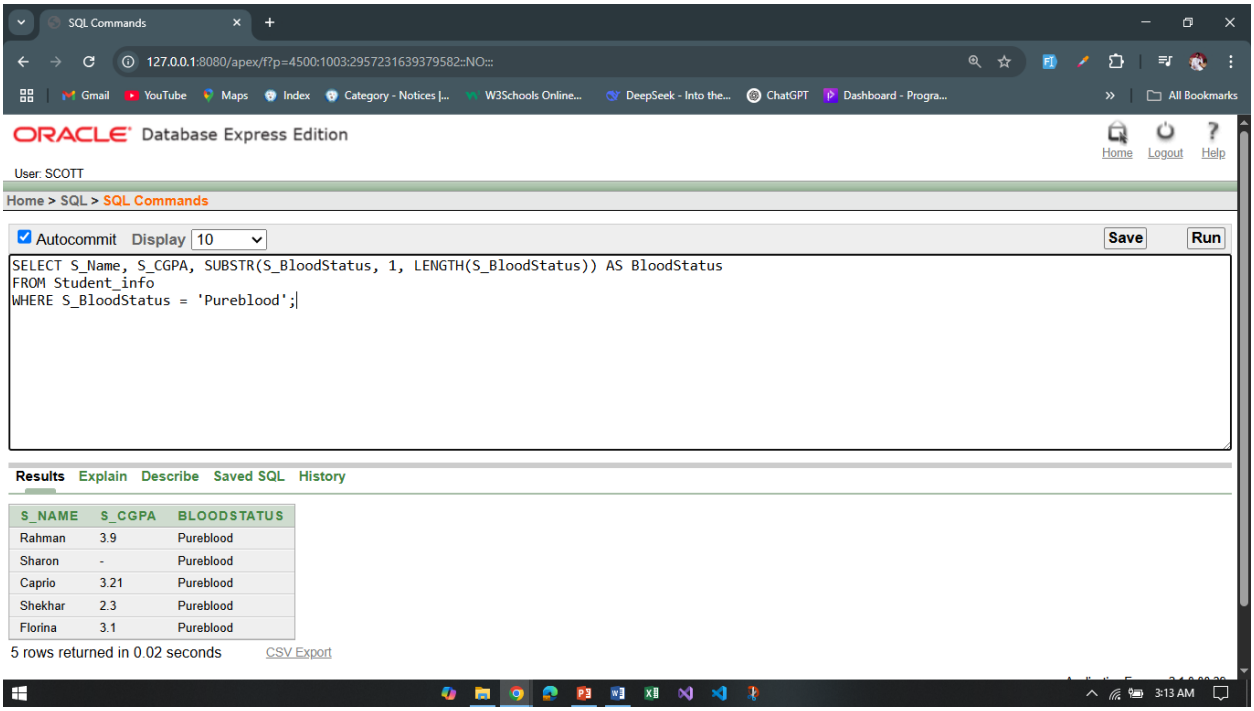
```
SELECT city, country, Country_code
FROM Address
ORDER BY Country_code DESC;
```



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

Answer:

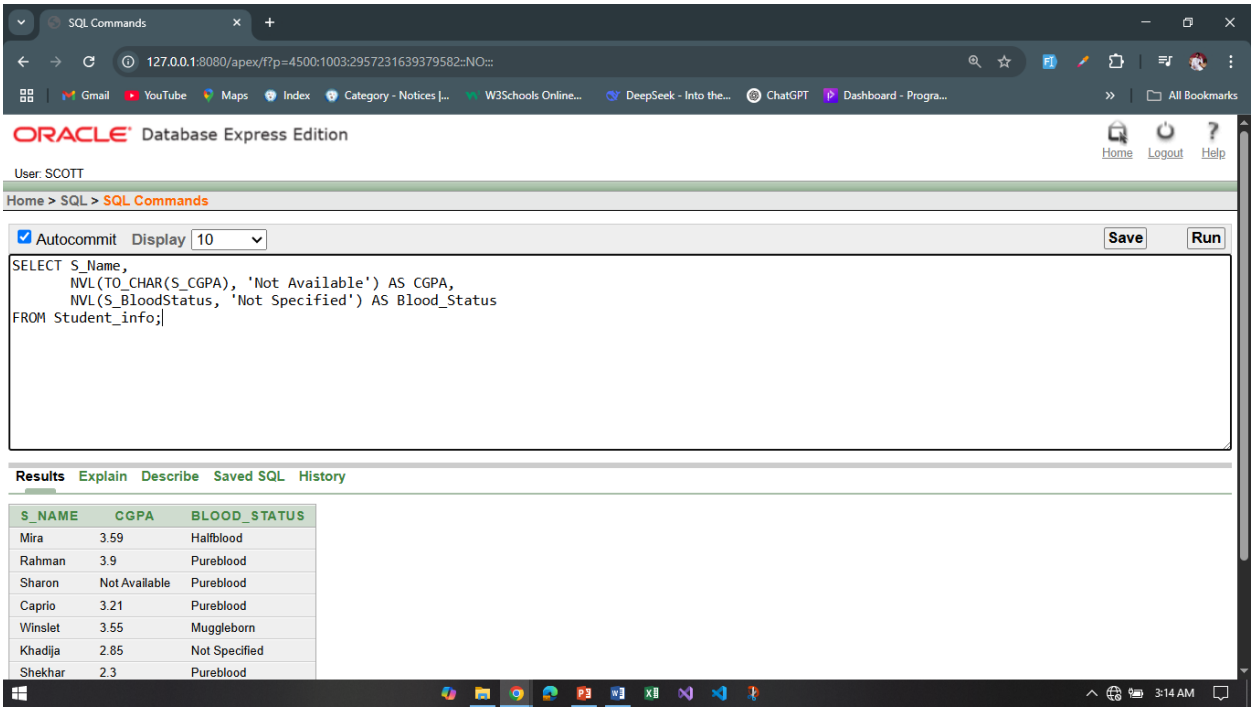
```
SELECT S_Name, S_CGPA, SUBSTR(S_BloodStatus, 1, LENGTH(S_BloodStatus)) AS BloodStatus
FROM Student_info
WHERE S_BloodStatus = 'Pureblood';
```



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

   Answer:

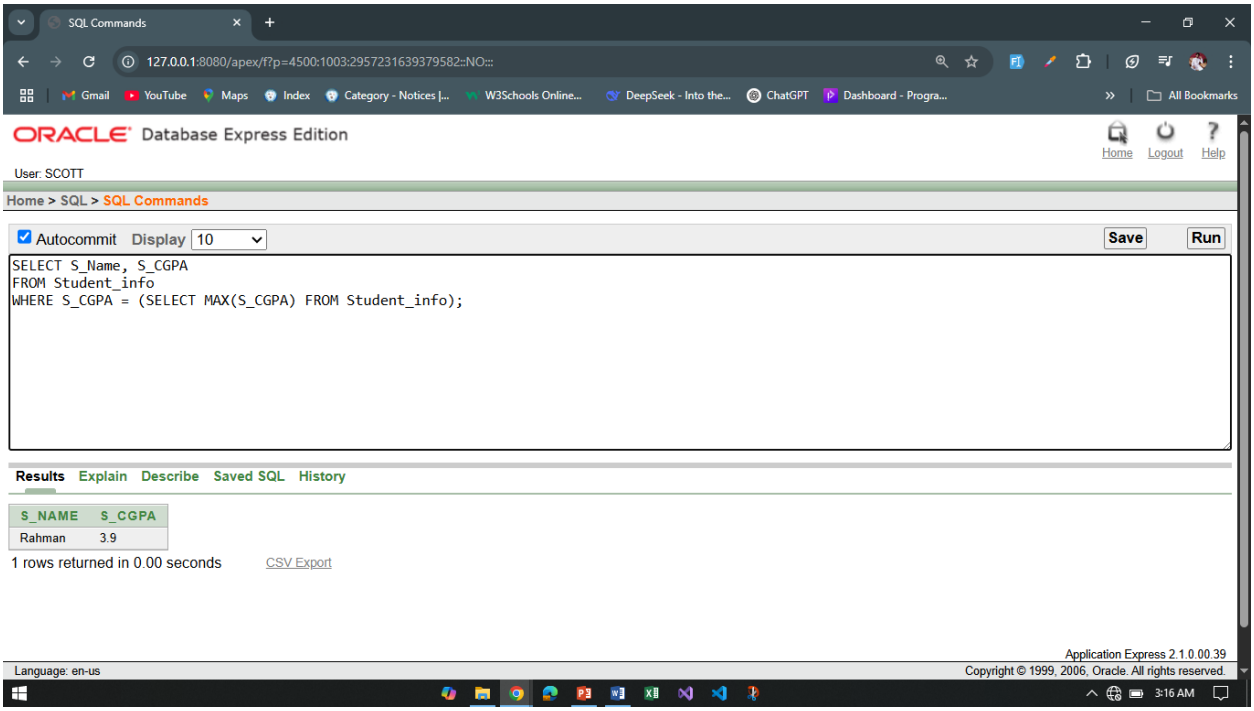
   SELECT S_Name,
   NVL(TO_CHAR(S_CGPA), 'Not Available') AS CGPA,
   NVL(S_BloodStatus, 'Not Specified') AS Blood_Status
   FROM Student_info;



9. 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);
```

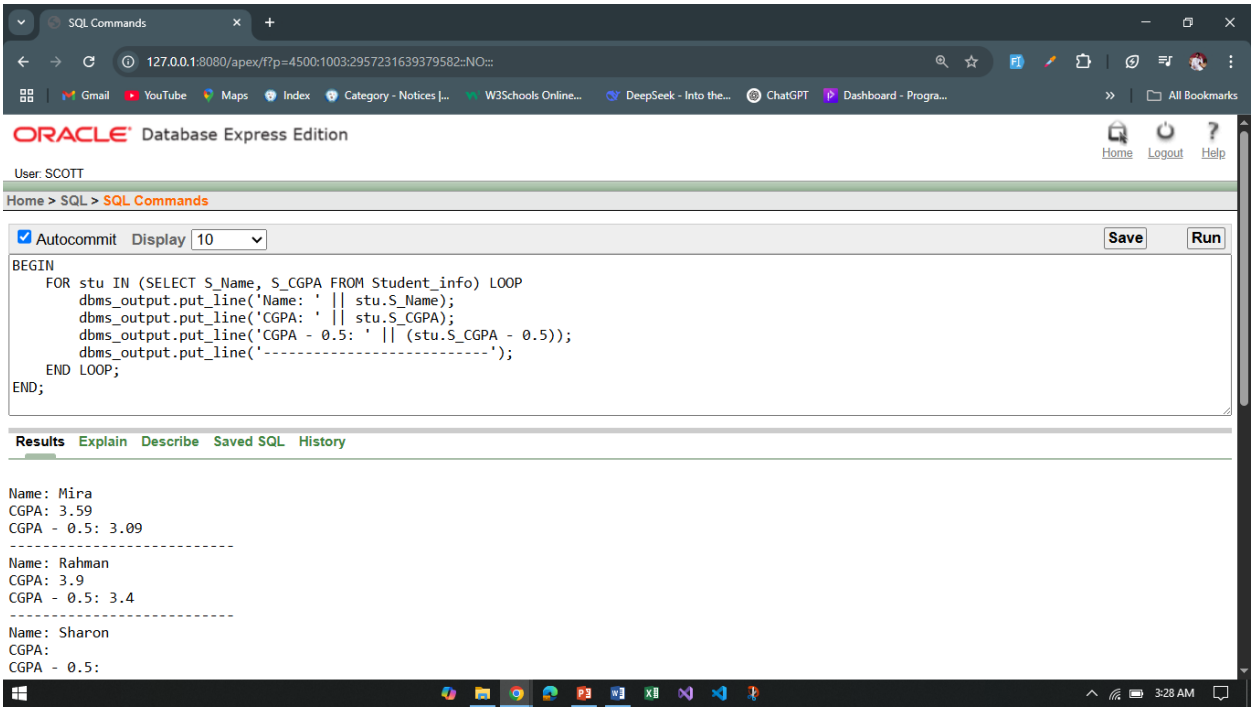


PL SQL:

1. Display the name, CGPA, (CGPA-0.5) of the students from the Student_info table.

   Answer:

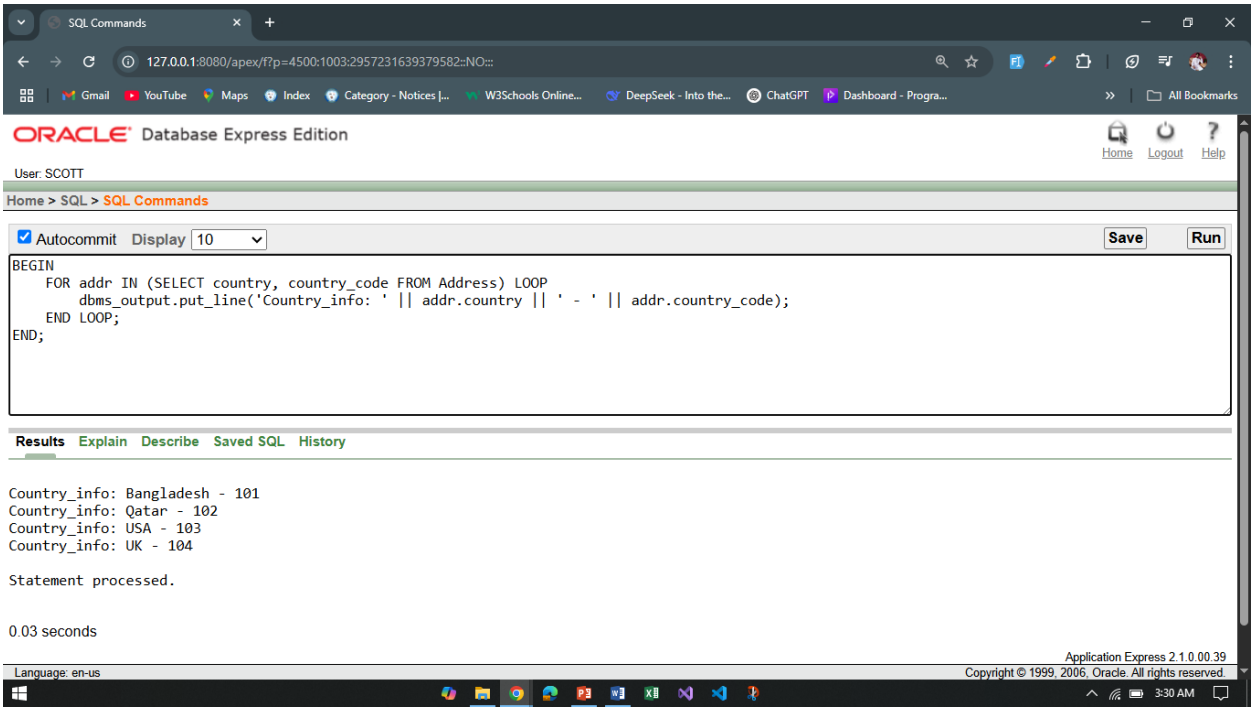
```
BEGIN
  FOR stu IN (SELECT S_Name, S_CGPA FROM Student_info) LOOP
    dbms_output.put_line('Name: ' || stu.S_Name);
    dbms_output.put_line('CGPA: ' || stu.S_CGPA);
    dbms_output.put_line('CGPA - 0.5: ' || (stu.S_CGPA - 0.5));
    dbms_output.put_line('--------------------------');
  END LOOP;
END;
```



2. Display country and country code together as “Country_info” using concatenation function.

   Answer:

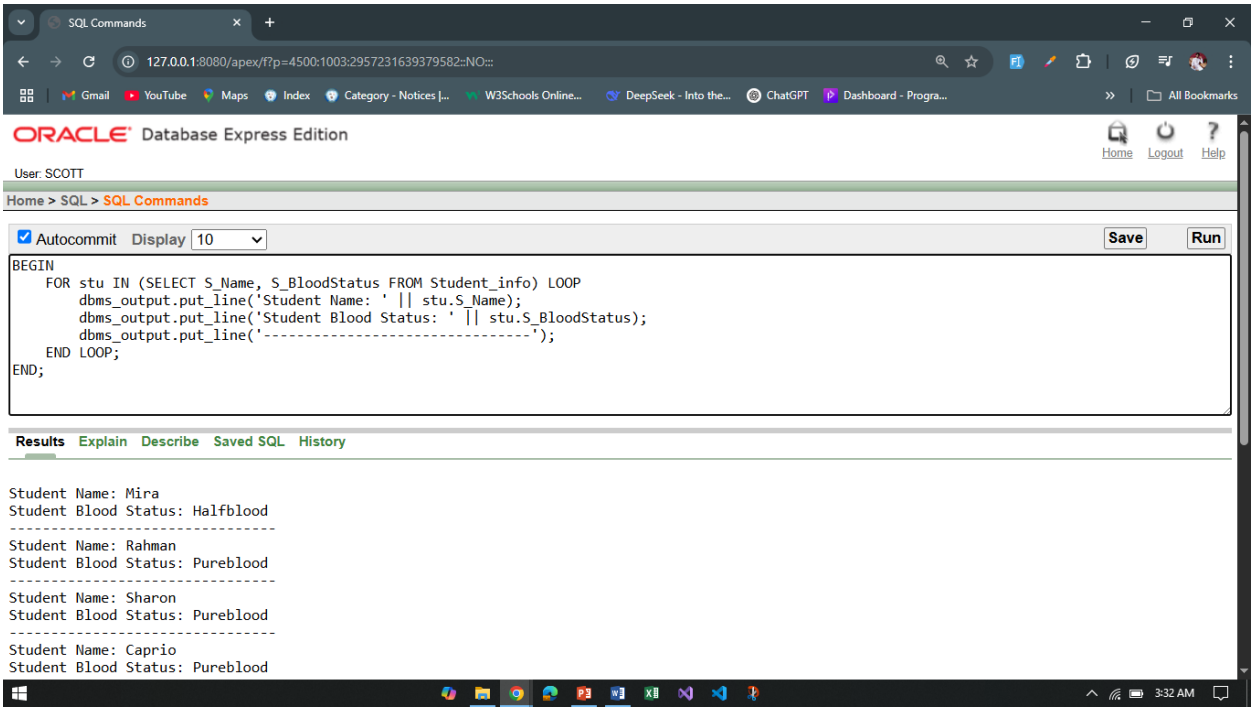
```
BEGIN
  FOR addr IN (SELECT country, country_code FROM Address) LOOP
    dbms_output.put_line('Country_info: ' || addr.country || ' - ' || addr.country_code);
  END LOOP;
END;
```



3. Display the student name and student blood status with the column name “Student Name” and “Student Blood Status” from Student_info.

   Answer:

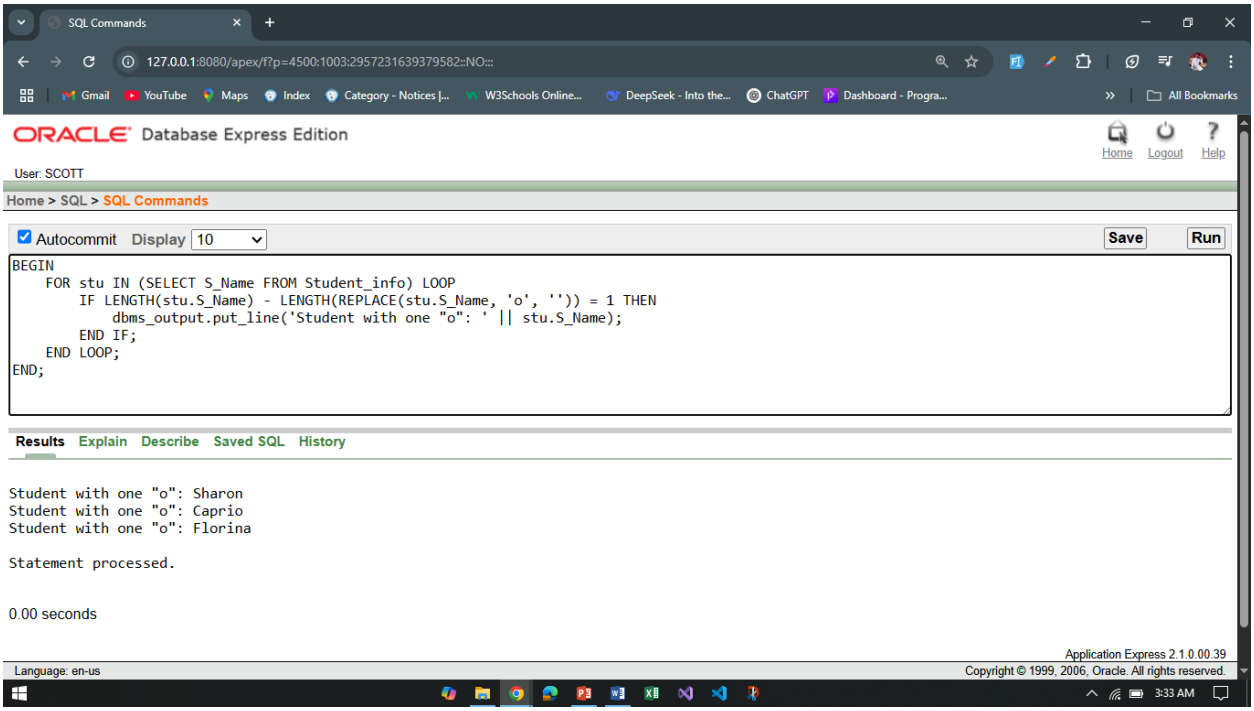
```
BEGIN
  FOR stu IN (SELECT S_Name, S_BloodStatus FROM Student_info) LOOP
    dbms_output.put_line('Student Name: ' || stu.S_Name);
    dbms_output.put_line('Student Blood Status: ' || stu.S_BloodStatus);
    dbms_output.put_line('--------------------------------');
  END LOOP;
END;
```



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

   Answer:

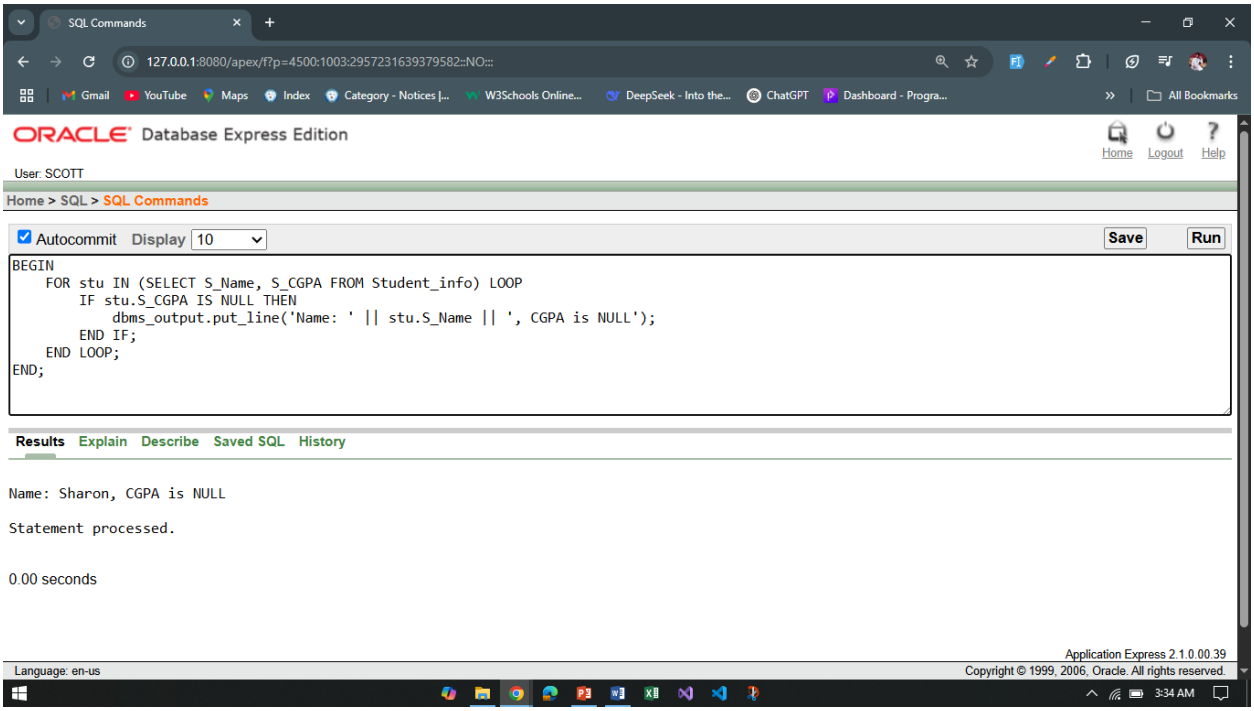
```
BEGIN
  FOR stu IN (SELECT S_Name FROM Student_info) LOOP
    IF LENGTH(stu.S_Name) - LENGTH(REPLACE(stu.S_Name, 'o', '')) = 1 THEN
      dbms_output.put_line('Student with one "o": ' || stu.S_Name);
    END IF;
  END LOOP;
END;
```



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

Answer:

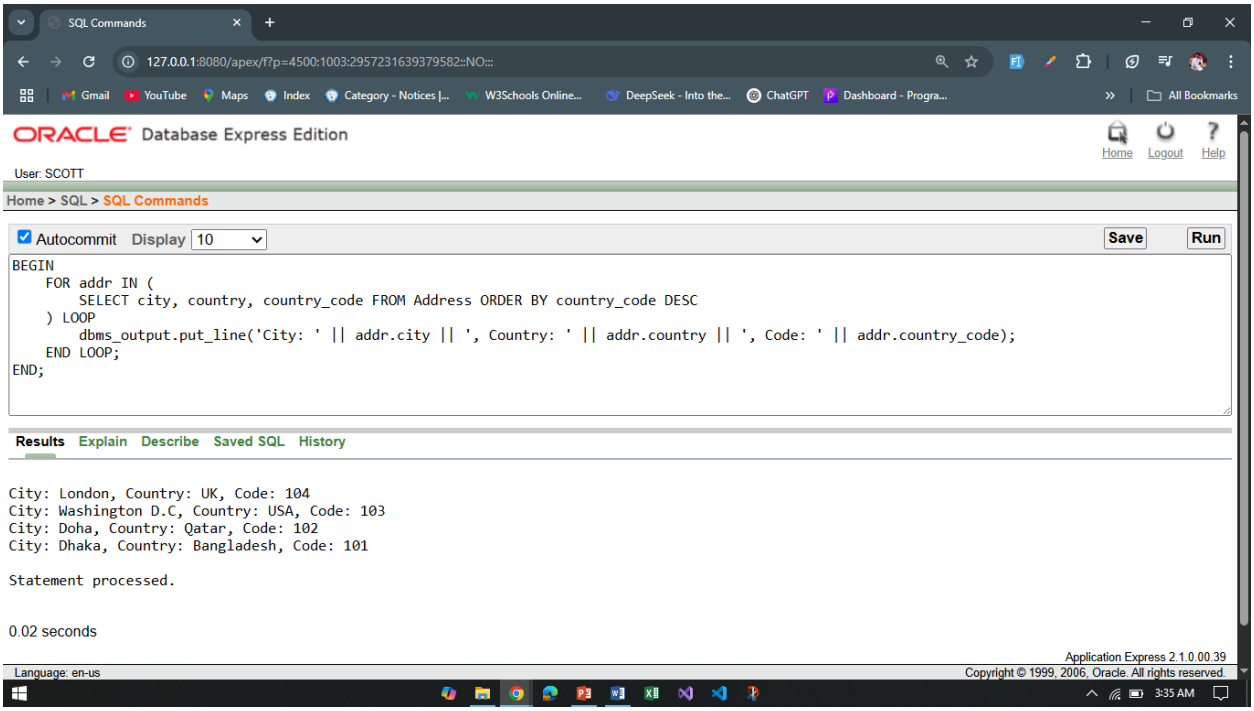
```
BEGIN
  FOR stu IN (SELECT S_Name, S_CGPA FROM Student_info) LOOP
    IF stu.S_CGPA IS NULL THEN
      dbms_output.put_line('Name: ' || stu.S_Name || ', CGPA is NULL');
    END IF;
  END LOOP;
END;
```



6. Display the city, country, country_code and those must be shown from highest numbered country code to lowest numbered country code.

Answer:

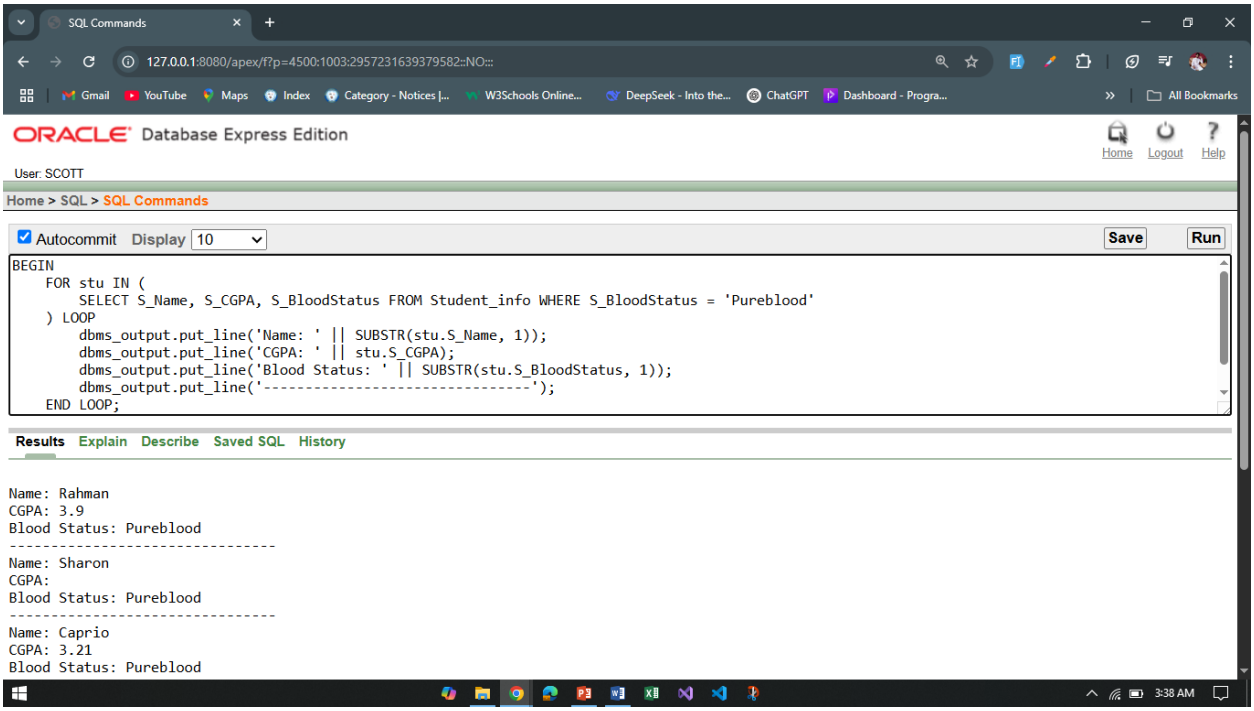
```
BEGIN
  FOR addr IN (
    SELECT city, country, country_code FROM Address ORDER BY country_code DESC
  ) LOOP
    dbms_output.put_line('City: ' || addr.city || ', Country: ' || addr.country || ', Code: ' ||
addr.country_code);
  END LOOP;
END;
```



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

Answer:

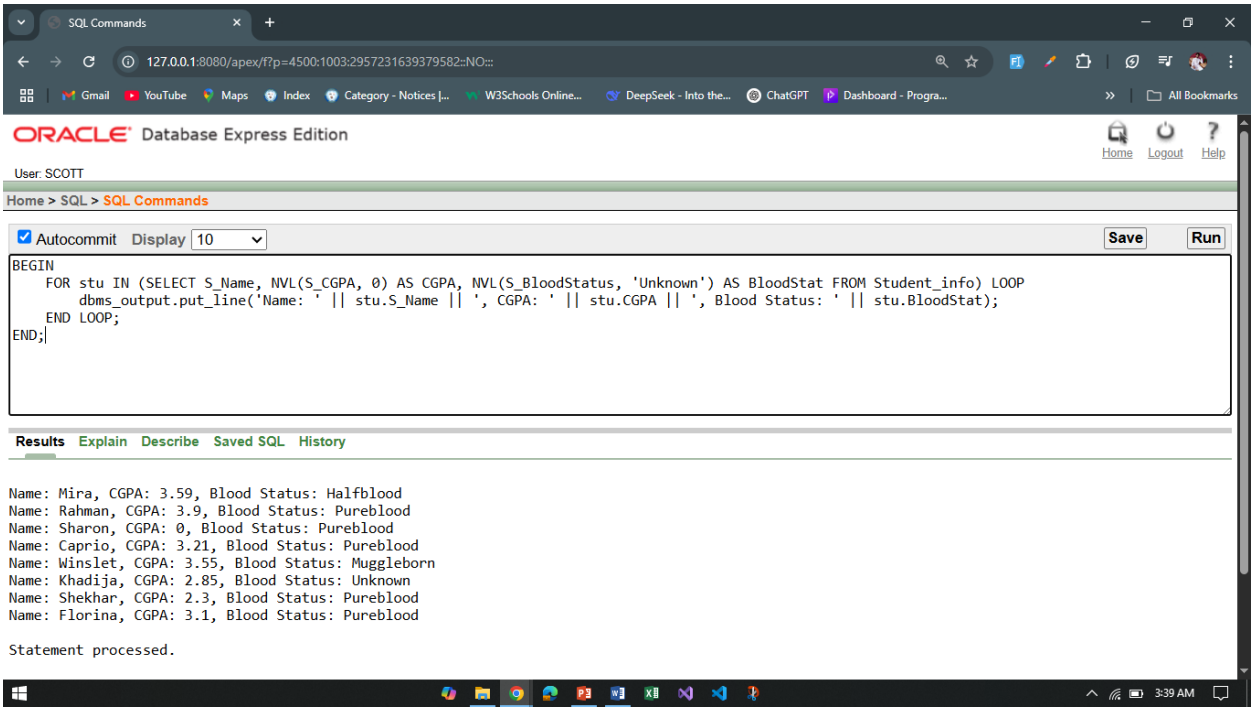
```
BEGIN
  FOR stu IN (
    SELECT S_Name, S_CGPA, S_BloodStatus FROM Student_info WHERE S_BloodStatus = 'Pureblood'
  ) LOOP
    dbms_output.put_line('Name: ' || SUBSTR(stu.S_Name, 1));
    dbms_output.put_line('CGPA: ' || stu.S_CGPA);
    dbms_output.put_line('Blood Status: ' || SUBSTR(stu.S_BloodStatus, 1));
    dbms_output.put_line('-------------------------------');
  END LOOP;
END;
```



8. 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;
```



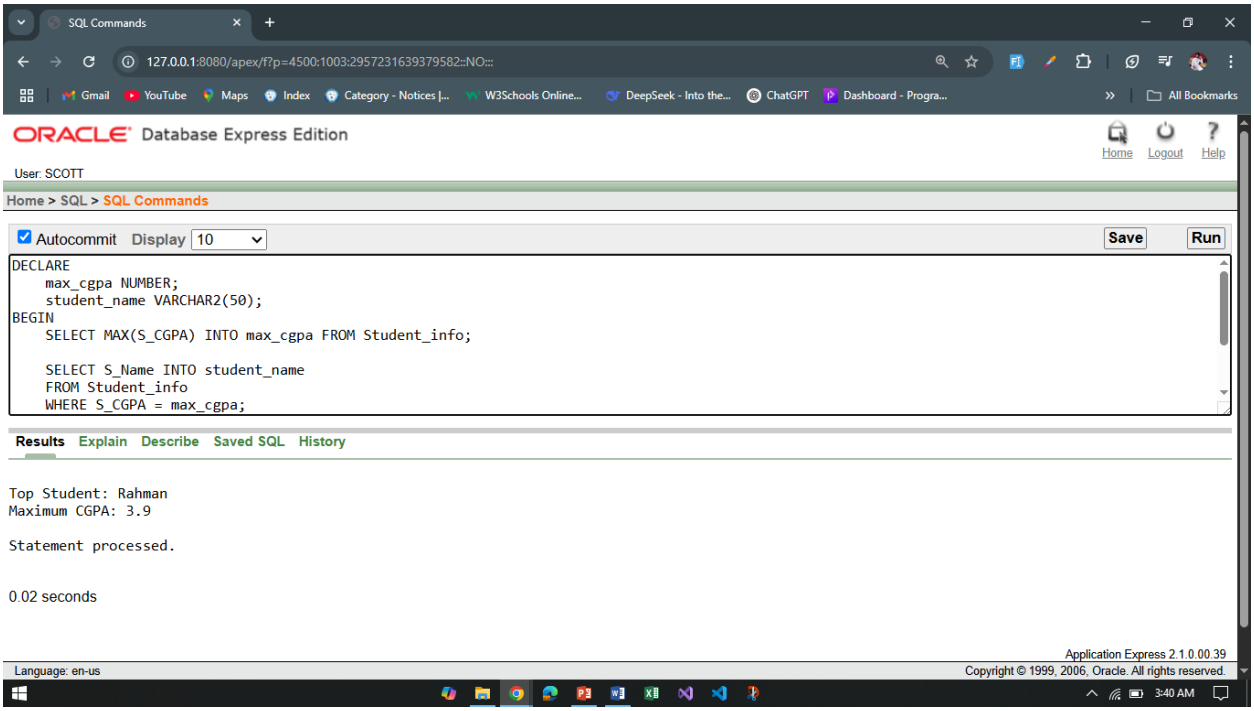
9. Find out the student who is holding maximum CGPA.

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**