

## Class Test 04

**Table: Student\_info**

<u>S_Id</u>	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**

<u>a_id</u>	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;
```

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT S_Name, S_CGPA, (S_CGPA - 0.5) AS Reduced_CGPA FROM Student_info;
```

Results Explain Describe Saved SQL History

S_NAME	S_CGPA	REDUCED_CGPA
Mira	3.59	3.09
Rahman	3.9	3.4
Sharon	3.6	3.1
Caprio	3.21	2.71
Winslet	3.55	3.05
Khadija	2.85	2.35
Shekhar	2.3	1.8

- Display country and country code together as "Country\_info" using concatenation function.

**Answer:**

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

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

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

Results Explain Describe Saved SQL History

COUNTRY_INFO
Bangladesh - 101
Qatar - 102
USA - 103
UK - 104

4 rows returned in 0.01 seconds [CSV Export](#)

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

- 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;
```

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO::: The page title is "ORACLE Database Express Edition". The user is logged in as "SCOTT". The breadcrumb navigation shows "Home > SQL > SQL Commands". The "Autocommit" checkbox is checked, and the "Display" dropdown is set to "10". The SQL command entered is: 

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

 The "Run" button is visible. Below the command editor, the "Results" tab is selected, showing a table with two columns: "Student Name" and "Student Blood Status". The table contains seven rows of data.

Student Name	Student Blood Status
Mira	Halfblood
Rahman	Pureblood
Sharon	Pureblood
Caprio	Pureblood
Winslet	Muggleborn
Khadija	Muggleborn
Shekhar	Pureblood

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;
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following query:

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

The query has been executed, and the results are displayed in a table:

S_NAME
Sharon
Caprio
Florina

3 rows returned in 0.01 seconds. A CSV Export link is available.

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;

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following query:

```
SELECT S_Name, S_CGPA FROM Student_info WHERE S_CGPA IS NULL;
```

The query has been executed, and the results are displayed in a table:

S_NAME	S_CGPA
Sharon	-

1 rows returned in 0.00 seconds. A CSV Export link is available.

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;
```

The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following query:

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

The query has been executed, and the results are displayed in a table with 4 rows. The table has columns CITY, COUNTRY, and COUNTRY\_CODE.

CITY	COUNTRY	COUNTRY_CODE
London	UK	104
Washington D.C	USA	103
Doha	Qatar	102
Dhaka	Bangladesh	101

4 rows returned in 0.00 seconds

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

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';
```

The screenshot shows the Oracle Database Express Edition web interface. The browser address bar shows the URL `127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO::`. The user is logged in as SCOTT. The SQL Commands window contains the following query:

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

The query has been executed, and the results are displayed in a table with 5 rows. The table has columns S\_NAME, S\_CGPA, and BLOODSTATUS. The results are as follows:

S_NAME	S_CGPA	BLOODSTATUS
Rahman	3.9	Pureblood
Sharon	-	Pureblood
Caprio	3.21	Pureblood
Shekhar	2.3	Pureblood
Florina	3.1	Pureblood

5 rows returned in 0.02 seconds. A CSV Export link is available.

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;
```

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582:NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

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

Results Explain Describe Saved SQL History

S_NAME	CGPA	BLOOD_STATUS
Mira	3.59	Halfblood
Rahman	3.9	Pureblood
Sharon	Not Available	Pureblood
Caprio	3.21	Pureblood
Winslet	3.55	Muggleborn
Khadija	2.85	Not Specified
Shekhar	2.3	Pureblood

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);
```

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582:NO::

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
SELECT S_Name, S_CGPA
FROM Student_info
WHERE S_CGPA = (SELECT MAX(S_CGPA) FROM Student_info);
```

Results Explain Describe Saved SQL History

S_NAME	S_CGPA
Rahman	3.9

1 rows returned in 0.00 seconds [CSV Export](#)

Application Express 2.1.0.00.39  
Copyright © 1999, 2006, Oracle. All rights reserved.

## 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);

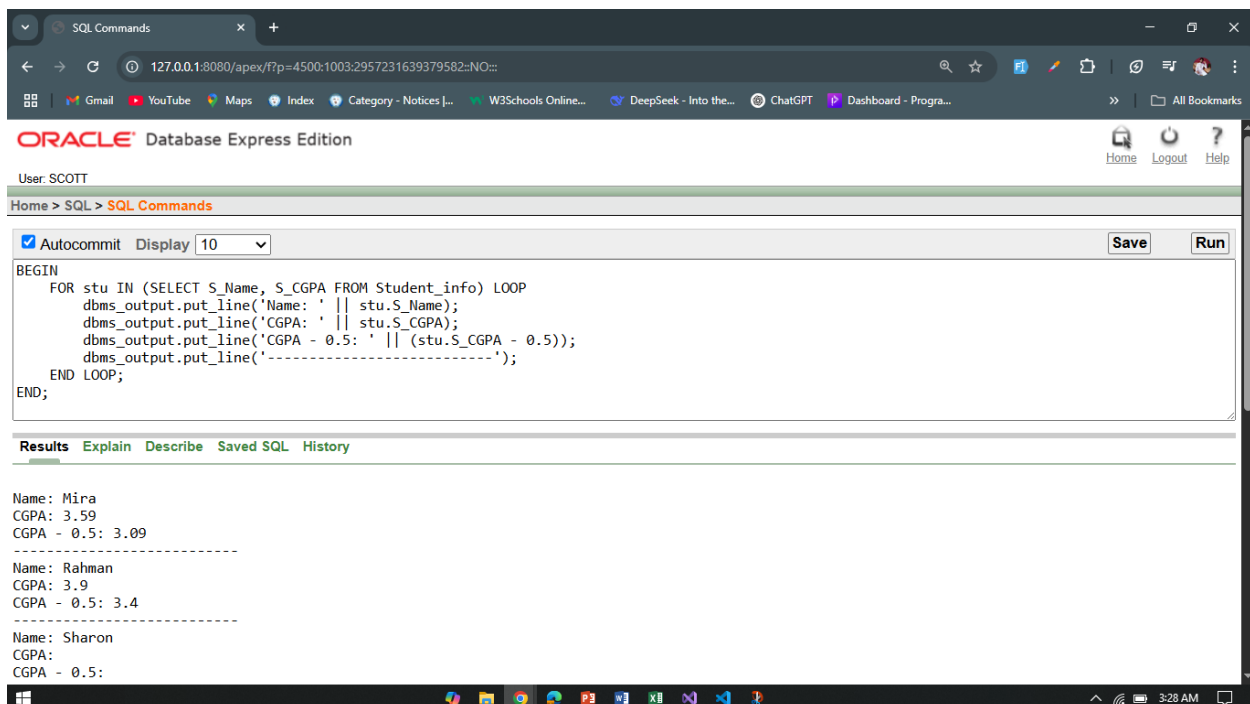
dbms\_output.put\_line('CGPA: ' || stu.S\_CGPA);

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;



SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582:NO...

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
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;
```

Results Explain Describe Saved SQL History

Country\_info: Bangladesh - 101  
Country\_info: Qatar - 102  
Country\_info: USA - 103  
Country\_info: UK - 104

Statement processed.

0.03 seconds

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

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;

The screenshot shows the Oracle Database Express Edition interface. The user is SCOTT. The SQL Commands window is active, showing a PL/SQL block that iterates over the Student\_info table and prints the student name and blood status. The output shows four students: Mira (Halfblood), Rahman (Pureblood), Sharon (Pureblood), and Caprio (Pureblood).

```
SQL Commands
127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO...
Gmail YouTube Maps Index Category - Notices [...] W3Schools Online... DeepSeek - Into the... ChatGPT Dashboard - Progra...
ORACLE Database Express Edition
User: SCOTT
Home > SQL > SQL Commands
Autocommit Display 10 Save Run
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;
```

Results Explain Describe Saved SQL History

```
Student Name: Mira
Student Blood Status: Halfblood
-----
Student Name: Rahman
Student Blood Status: Pureblood
-----
Student Name: Sharon
Student Blood Status: Pureblood
-----
Student Name: Caprio
Student Blood Status: Pureblood
```

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;

The screenshot shows the Oracle Database Express Edition SQL Commands interface. The user is SCOTT. The SQL command entered is a PL/SQL block that iterates through the Student\_info table, counting the number of 'o's in each student's name and displaying the result.

```
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;
```

The results show three students with one 'o': Sharon, Caprio, and Florina. The statement was processed in 0.00 seconds.

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;

Oracle Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```

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;

```

Results Explain Describe Saved SQL History

City: London, Country: UK, Code: 104  
 City: Washington D.C, Country: USA, Code: 103  
 City: Doha, Country: Qatar, Code: 102  
 City: Dhaka, Country: Bangladesh, Code: 101

Statement processed.

0.02 seconds

Language: en-us Application Express 2.1.0.0.39 Copyright © 1999, 2006, Oracle. All rights reserved.

- 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;

The screenshot shows the Oracle Database Express Edition interface. The user is SCOTT. The SQL Commands window is active, displaying a PL/SQL block that loops through students with a blood status of 'Pureblood'. The results are displayed below the code.

```

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;

```

Results:

```

Name: Rahman
CGPA: 3.9
Blood Status: Pureblood
-----
Name: Sharon
CGPA:
Blood Status: Pureblood
-----
Name: Caprio
CGPA: 3.21
Blood Status: Pureblood

```

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;

The screenshot shows the Oracle Database Express Edition interface. The browser address bar indicates the URL: 127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582:NO::: The user is logged in as SCOTT. The SQL Commands window is active, showing a PL/SQL block with a loop that iterates over the Student\_info table, displaying the name, CGPA, and Blood Status of each student. The results are shown in a table below the code.

```
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;
```

Results

Name	CGPA	Blood Status
Mira	3.59	Halfblood
Rahman	3.9	Pureblood
Sharon	0	Pureblood
Caprio	3.21	Pureblood
Winslet	3.55	Muggleborn
Khadija	2.85	Unknown
Shekhar	2.3	Pureblood
Florina	3.1	Pureblood

Statement processed.

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;

SQL Commands

127.0.0.1:8080/apex/f?p=4500:1003:2957231639379582::NO...

ORACLE Database Express Edition

User: SCOTT

Home > SQL > SQL Commands

☒ Autocommit Display 10 Save Run

```
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;
```

Results Explain Describe Saved SQL History

Top Student: Rahman  
Maximum CGPA: 3.9

Statement processed.

0.02 seconds

Language: en-us Application Express 2.1.0.00.39 Copyright © 1999, 2006, Oracle. All rights reserved.

**\*\*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**