Boss Bhandari
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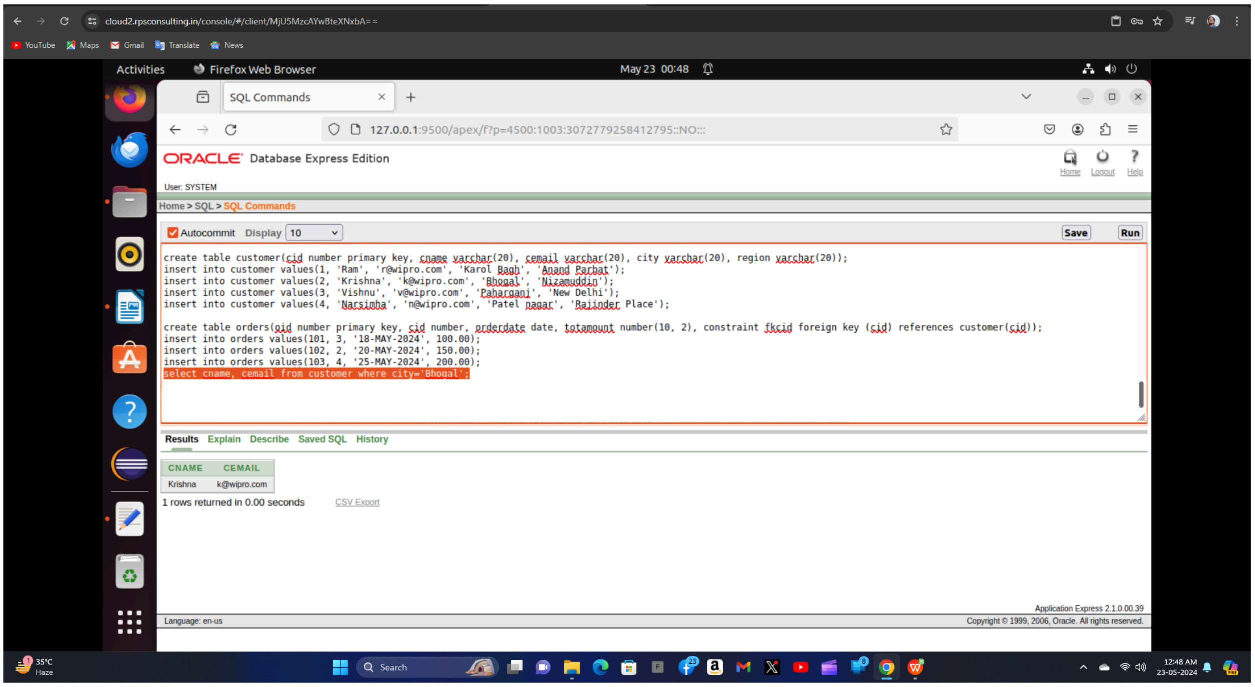
ASSIGNMENT - 1

PROBLEM STATEMENT : Write a SELECT query to retrieve all columns from a 'customers' table, and modify it to return only the customer name and email address for customers in a specific city.

SOLUTION:



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Firefox Web Browser
May 23 00:48
SQL Commands
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ORACLE Database Express Edition
Home
Logout
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User: SYSTEM
Home > SQL > SQL Commands
Autocommit
Display 10
Save
Run
Results
Explain
Describe
Saved SQL
History
Language: en-us
Application Express 2.1.0.00.39
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```
create table customer(cid number primary key, cname varchar(20), cemail varchar(20), city varchar(20), region varchar(20));
insert into customer values(1, 'Ram', 'r@wipro.com', 'Karol Bagh', 'Anand Parbat');
insert into customer values(2, 'Krishna', 'k@wipro.com', 'Bhogal', 'Nizamuddin');
insert into customer values(3, 'Vishnu', 'v@wipro.com', 'Paharganj', 'New Delhi');
insert into customer values(4, 'Narsimha', 'n@wipro.com', 'Patel nagar', 'Rajinder Place');

create table orders(oid number primary key, cid number, orderdate date, totamount number(10, 2), constraint fkcid foreign key (cid) references customer(cid));
insert into orders values(101, 3, '18-MAY-2024', 100.00);
insert into orders values(102, 2, '20-MAY-2024', 150.00);
insert into orders values(103, 4, '25-MAY-2024', 200.00);
select cname, cemail from customer where city='Bhogal';
```

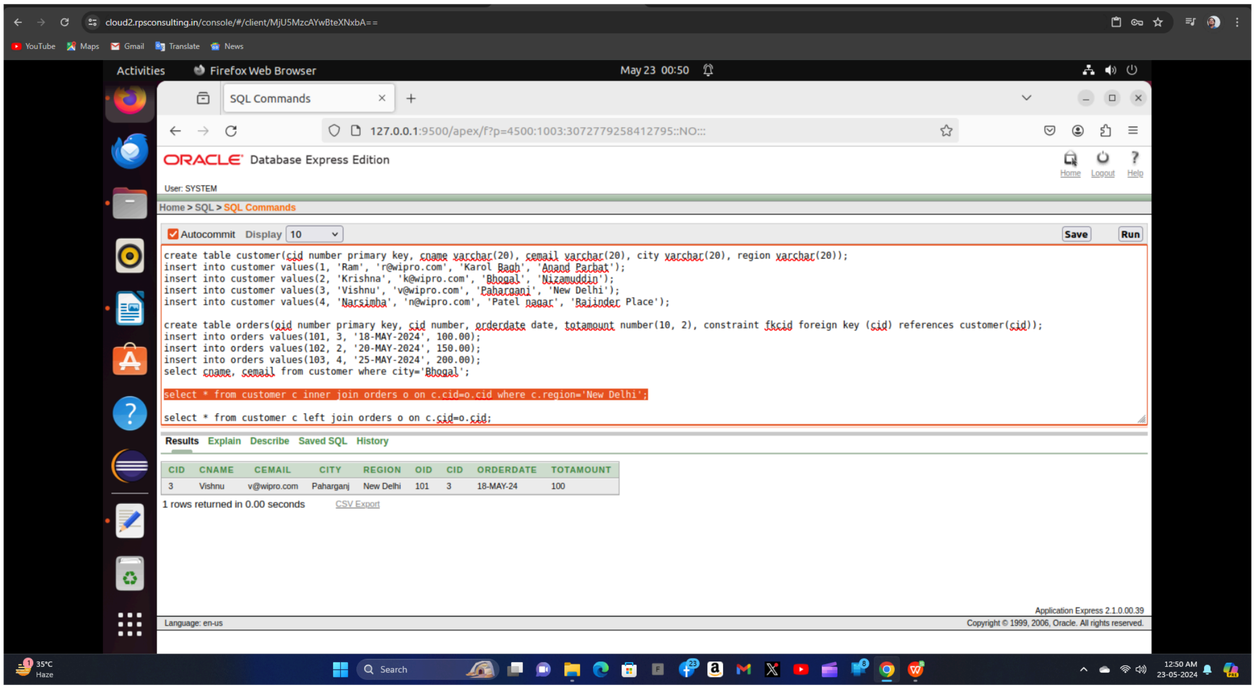
CNAME	CEMAIL
Krishna	k@wipro.com

1 rows returned in 0.00 seconds CSV Export

ASSIGNMENT - 2

PROBLEM STATEMENT : Craft a query using an INNER JOIN to combine 'orders' and 'customers' tables for customers in a specified region, and a LEFT JOIN to display all customers including those without orders.

SOLUTION: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Activities
Firefox Web Browser
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SQL Commands
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ORACLE Database Express Edition
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Autocommit
Display 10
Save
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History
CSV Export
Application Express 2.1.0.00.39
Language: en-us
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35°C
Haze
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12:50 AM
23-05-2024

```
create table customer(cid number primary key, cname varchar(20), cemail varchar(20), city varchar(20), region varchar(20));
insert into customer values(1, 'Ram', 'r@wipro.com', 'Karol Bagh', 'Anand Parbat');
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insert into orders values(102, 2, '20-MAY-2024', 150.00);
insert into orders values(103, 4, '25-MAY-2024', 200.00);
select cname, cemail from customer where city='Bhogal';

select * from customer c inner join orders o on c.cid=o.cid where c.region='New Delhi';

select * from customer c left join orders o on c.cid=o.cid;
```
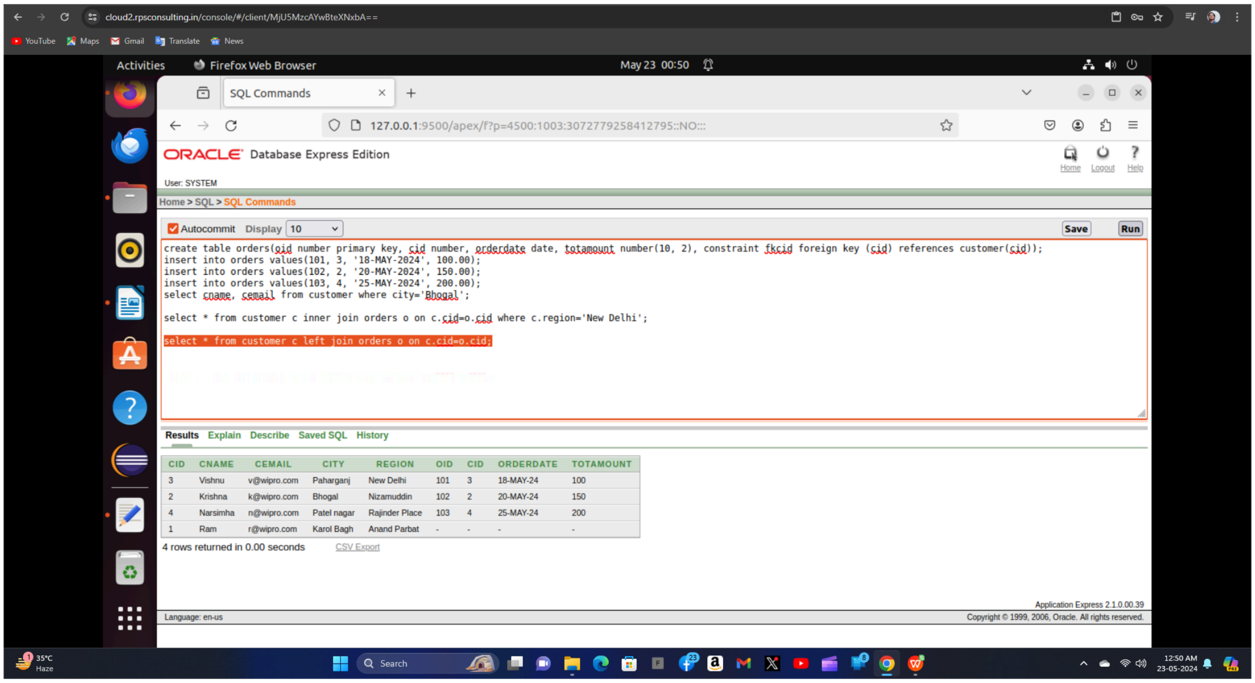

CID	CNAME	CEMAIL	CITY	REGION	OID	CID	ORDERDATE	TOTAMOUNT
3	Vishnu	v@wipro.com	Paharganj	New Delhi	101	3	18-MAY-24	100

1 rows returned in 0.00 seconds


cloud2.rpsconsulting.in/console/#/client/MjU5MzcAYwBteXNxbA==
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May 23 00:50
SQL Commands
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ORACLE Database Express Edition
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```
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insert into orders values(101, 3, '18-MAY-2024', 100.00);
insert into orders values(102, 2, '20-MAY-2024', 150.00);
insert into orders values(103, 4, '25-MAY-2024', 200.00);
select cname, cemail from customer where city='Bhogal';

select * from customer c inner join orders o on c.cid=o.cid where c.region='New Delhi';

select * from customer c left join orders o on c.cid=o.cid;
```
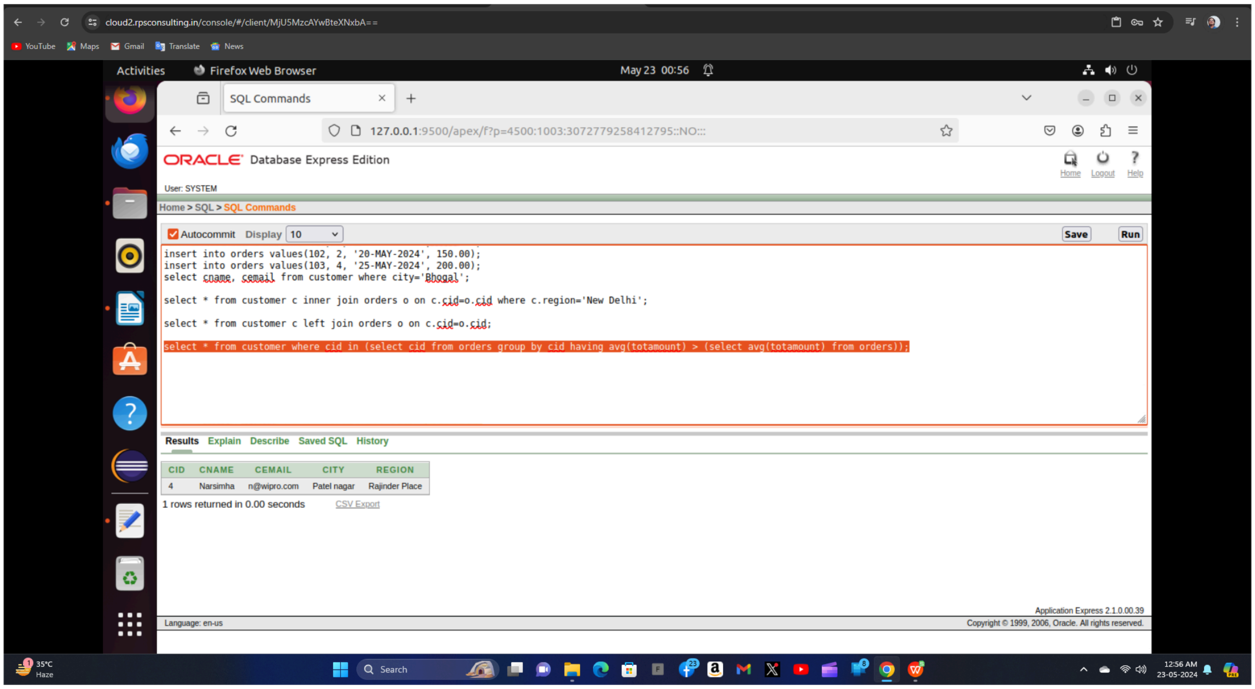

CID	CNAME	CEMAIL	CITY	REGION	OID	CID	ORDERDATE	TOTAMOUNT
3	Vishnu	v@wipro.com	Paharganj	New Delhi	101	3	18-MAY-24	100
2	Krishna	k@wipro.com	Bhogal	Nizamuddin	102	2	20-MAY-24	150
4	Narsimha	n@wipro.com	Patel nagar	Rajinder Place	103	4	25-MAY-24	200
1	Ram	r@wipro.com	Karol Bagh	Anand Parbat	-	-	-	-

4 rows returned in 0.00 seconds

ASSIGNMENT - 3

PROBLEM STATEMENT : Utilize a subquery to find customers who have placed orders above the average order value, and write a UNION query to combine two SELECT statements with the same number of columns.

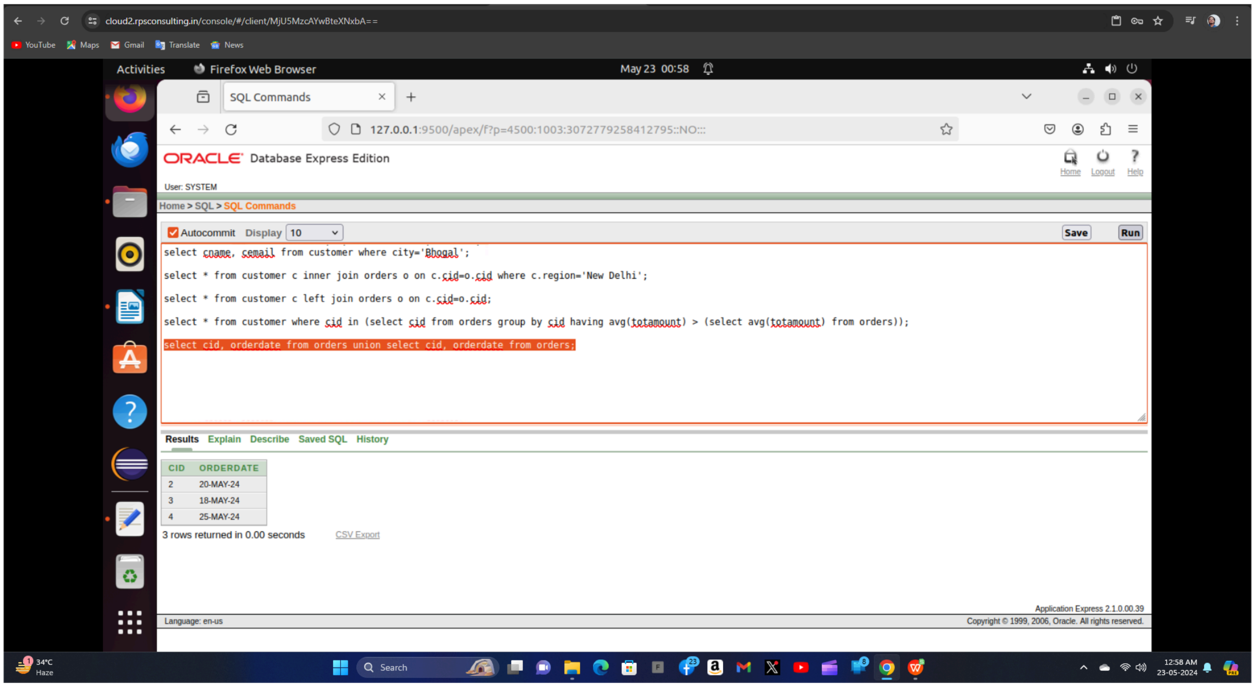
SOLUTION :



```
insert into orders values(102, 2, '20-MAY-2024', 150.00);
insert into orders values(103, 4, '25-MAY-2024', 200.00);
select cname, cemail from customer where city='Bhogal';

select * from customer c inner join orders o on c.cid=o.cid where c.region='New Delhi';

select * from customer c left join orders o on c.cid=o.cid;

select * from customer where cid in (select cid from orders group by cid having avg(totamount) > (select avg(totamount) from orders));
```

CID	CNAME	CEMAIL	CITY	REGION
4	Narsimha	n@wipro.com	Patel nagar	Rajinder Place

1 rows returned in 0.00 seconds



```
select cname, cemail from customer where city='Bhogal';

select * from customer c inner join orders o on c.cid=o.cid where c.region='New Delhi';

select * from customer c left join orders o on c.cid=o.cid;

select * from customer where cid in (select cid from orders group by cid having avg(totamount) > (select avg(totamount) from orders));

select cid, orderdate from orders union select cid, orderdate from orders;
```

CID	ORDERDATE
2	20-MAY-24
3	18-MAY-24
4	25-MAY-24

3 rows returned in 0.00 seconds

ASSIGNMENT - 6

PROBLEM STATEMENT : Draft a brief report on the use of transaction logs for data recovery and create a hypothetical scenario where a transaction log is instrumental in data recovery after an unexpected shutdown.

SOLUTION :

- Transaction logs is a tool used to store detailed database at a place such that it can be retrieved and managed efficiently when needed. In case of any kind of database failure or unexpected shutdown transaction logs is the most efficient way to get our data recovered with the minimal loss
- Scenerio :
  - □ Consider a scenario where a school is running its database over online platform and one day they suffers from a sudden shutdown in the whole locality. Due to this all the running data and work on database gets stopped instantly and everyone seems worried as no one know how all the data will be retrieved back successfully which have very crucial database of student details, parent's info and teacher and staff database. But here comes the database engineer who knows the solution for this data recovery and was working since few days with the school
- Challenge for school :
  - □ School staff need to get back all the crucial database as soon as possible as without it will be really hard to run various other online activities like paying salary to teachers, updating student's marks on school portal, new admission details, etc.
- Solution:
  - □ The database engineer knows the tool called as transaction log as he was working with the school since few days and knows how to recover data with the minimal loss
- Result :
  - □ With his laptop or with the school system, when the power comes back, he recovers almost 80-90% of data without any loss back to the school database. Only few data is lost which is either new or had very less priority to be stored in the log.