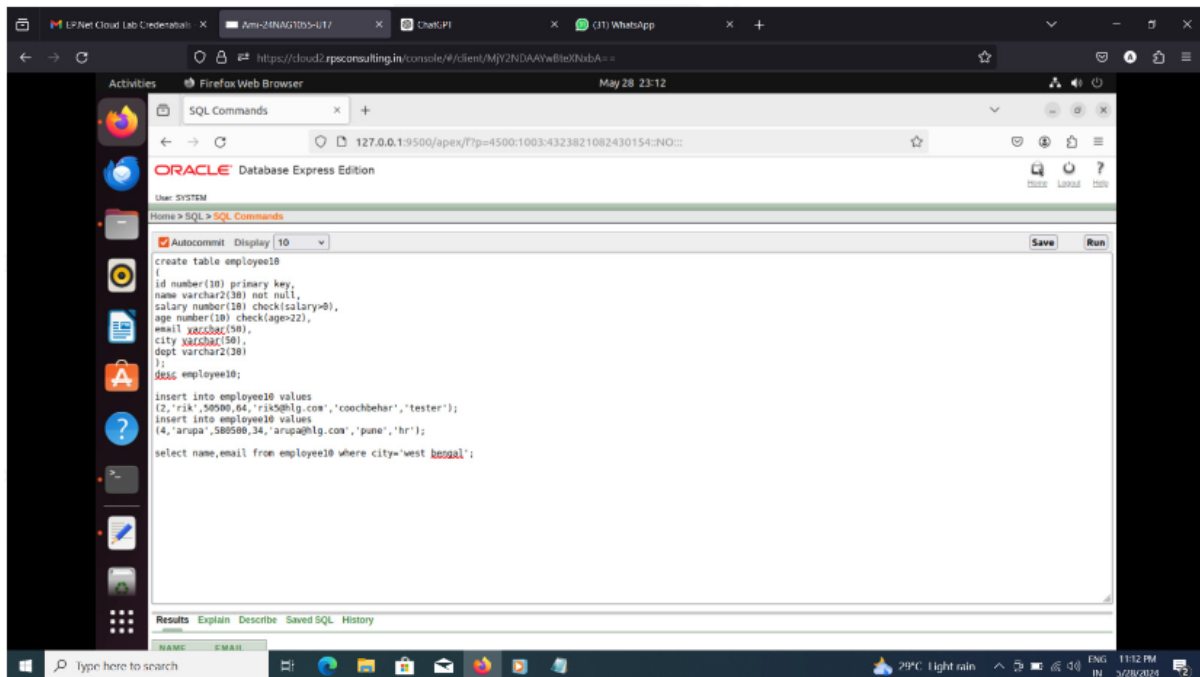


Date – 28/5/2024

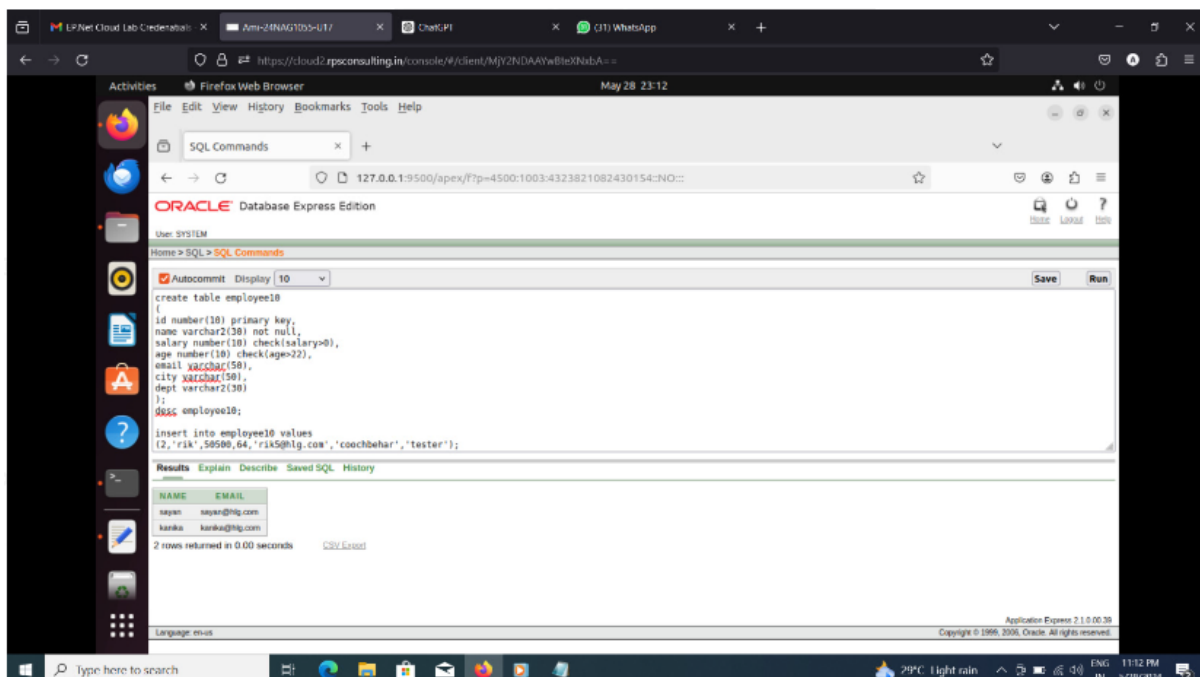
## SQL Database

### Assignment 1:

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.



Output –



## Assignment 2:

Design a database schema for a library system, including tables, fields, and constraints like NOT NULL, UNIQUE, and CHECK. Include primary and foreign keys to establish relationships between tables.

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

```
create table author
(
  id int primary key,
  authorname varchar(100) not null
);
insert into author values(45,'ARJUNA');
insert into author values(56,'DIP');
insert into author values(67,'CAL');
insert into author values(5,'GABRI');
select * from author;

create table books
(
  bookid int unique,
  id int,
  publishyear int check(publishyear>2000),
  constraint fk3 foreign key(id) references author(id)
);
insert into books values(23,45,2002);
insert into books values(34,56,2345);
insert into books values(21,67,3004);
insert into books values(51,5,2007);
select * from books;
```

The Results window shows the output of the select statements:

BOOKID	ID	PUBLISHYEAR
23	45	2002

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

```
create table books
(
  bookid int unique,
  id int,
  publishyear int check(publishyear>2000),
  constraint fk3 foreign key(id) references author(id)
);
insert into books values(23,45,2002);
insert into books values(34,56,2345);
insert into books values(21,67,3004);
insert into books values(51,5,2007);
select * from books;
```

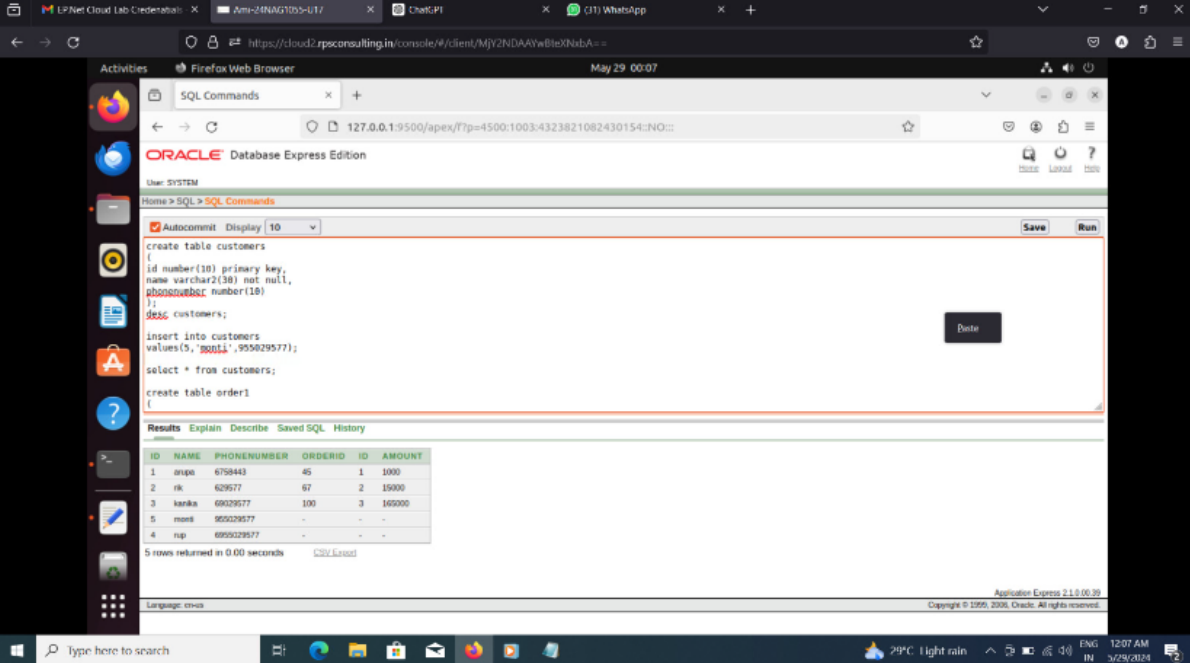
The Results window shows the output of the select statement:

BOOKID	ID	PUBLISHYEAR
23	45	2002
34	56	2345
21	67	3004
51	5	2007

4 rows returned in 0.00 seconds

### Assignment 3:

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.



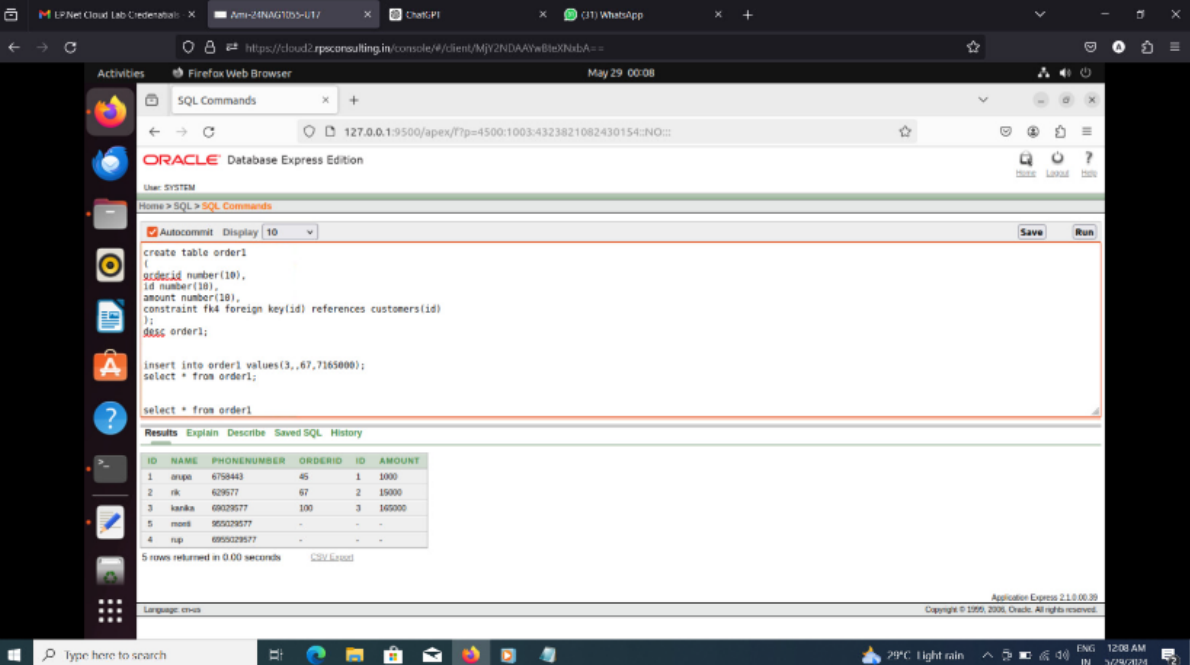
The screenshot shows the Oracle Database Express Edition interface. The SQL Commands window contains the following code:

```
create table customers
(
  id number(10) primary key,
  name varchar2(30) not null,
  phonenumber number(10)
);
desc customers;
insert into customers
values(5, 'roshi', 955029577);
select * from customers;
create table order1
(
```

The Results window displays the following data:

ID	NAME	PHONENUMBER	ORDERID	ID	AMOUNT
1	arupa	6758443	45	1	1000
2	rk	629577	67	2	15000
3	karika	69029577	100	3	165000
5	roshi	955029577	-	-	-
4	rup	695029577	-	-	-

5 rows returned in 0.00 seconds



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

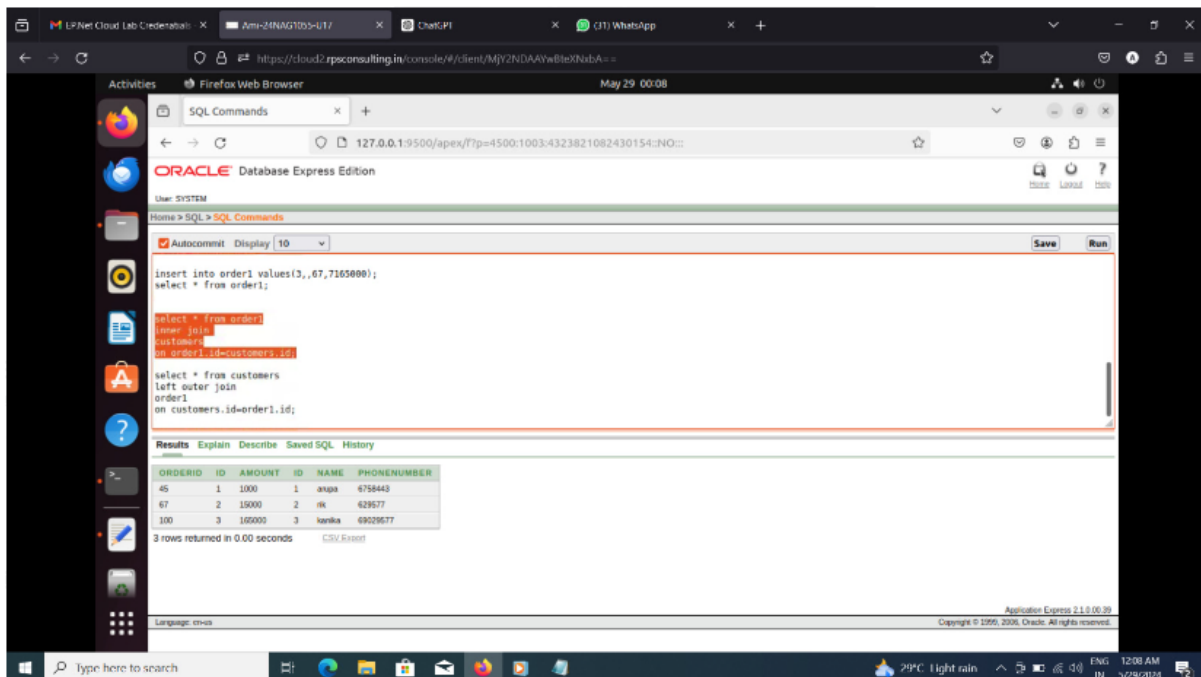
```
create table order1
(
  orderid number(10),
  id number(10),
  amount number(10),
  constraint fk4 foreign key(id) references customers(id)
);
desc order1;
insert into order1 values(3, 67, 7165000);
select * from order1;
```

The Results window displays the following data:

ID	NAME	PHONENUMBER	ORDERID	ID	AMOUNT
1	arupa	6758443	45	1	1000
2	rk	629577	67	2	15000
3	karika	69029577	100	3	165000
5	roshi	955029577	-	-	-
4	rup	695029577	-	-	-

5 rows returned in 0.00 seconds

## Inner Join



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

```
insert into order1 values(3,,67,7165000);
select * from order1;

select * from order1
inner join
customers
on order1.id=customers.id;

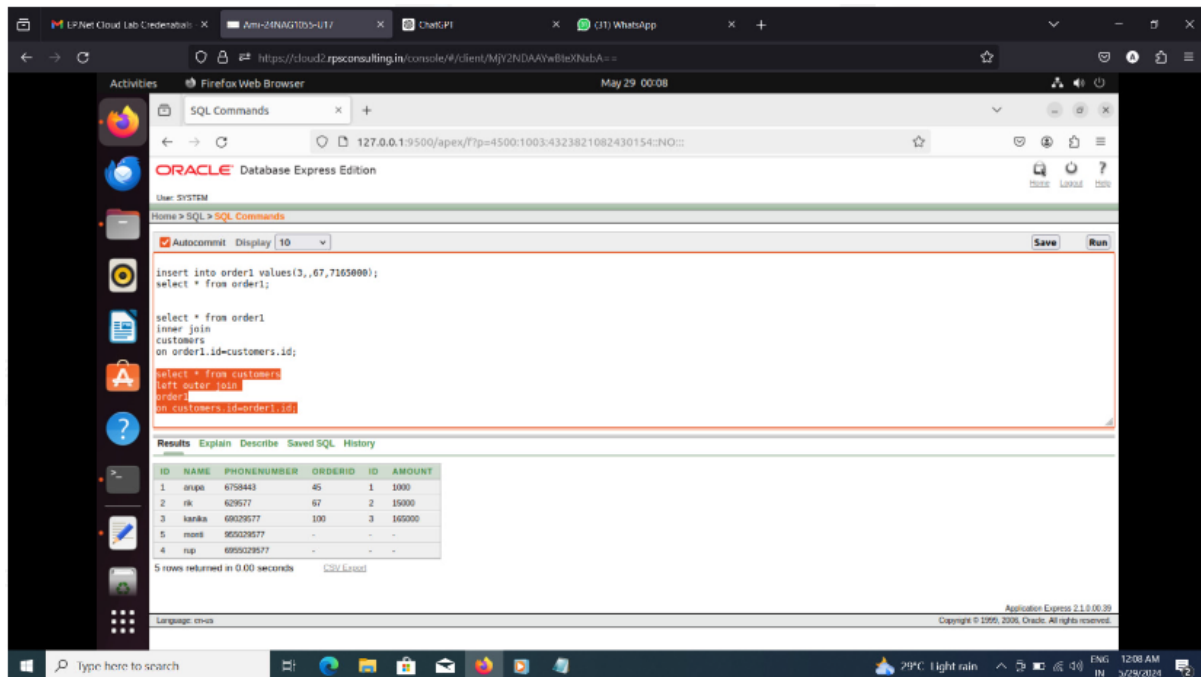
select * from customers
left outer join
order1
on customers.id=order1.id;
```

The Results window displays the output of the inner join query:

ORDERID	ID	AMOUNT	ID	NAME	PHONENUMBER
45	1	1000	1	arupa	6758443
67	2	15000	2	rk	629577
100	3	165000	3	kanika	69029577

3 rows returned in 0.00 seconds

## Left outer join



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

```
insert into order1 values(3,,67,7165000);
select * from order1;

select * from order1
inner join
customers
on order1.id=customers.id;

select * from customers
left outer join
order1
on customers.id=order1.id;
```

The Results window displays the output of the left outer join query:

ID	NAME	PHONENUMBER	ORDERID	ID	AMOUNT
1	arupa	6758443	45	1	1000
2	rk	629577	67	2	15000
3	kanika	69029577	100	3	165000
5	mond	95029577	-	-	-
6	rup	695029577	-	-	-

5 rows returned in 0.00 seconds

## Assignment 4:

Write SQL statements to CREATE a new database and tables that reflect the library schema you designed earlier. Use ALTER statements to modify the table structures and DROP statements to remove a redundant table.

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

```
create table author
(
  id int primary key,
  authorname varchar(100) not null
);
desc author;
insert into author values(45,'aruna');
insert into author values(56,'dax');
insert into author values(67,'dax');
insert into author values(5,'saba');
select * from author;
create table book5
(
```

The Results window displays the following data:

BOOKID	ID	PUBLISHYEAR
23	45	2002
34	56	2345
21	67	3004
51	5	2007

4 rows returned in 0.00 seconds

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

```
create table book5
(
  bookid int unique,
  id int,
  publishyear int check(publishyear>2000),
  constraint fk3 foreign key(id) references author(id)
);
desc book5;
insert into book5 values(23,45,2002,);
insert into book5 values(34,56,2345);
insert into book5 values(21,67,3004);
insert into book5 values(51,5,2007);
select * from book5;
```

The Results window displays the following data:

BOOKID	ID	PUBLISHYEAR
23	45	2002
34	56	2345
21	67	3004
51	5	2007

4 rows returned in 0.00 seconds

## Alter Output

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

```
id int;  
publishyear int check(publishyear>2000),  
constraint fk3 foreign key(id) references author(id)  
);  
drop book5;  
insert into book5 values(23,45,2002,);  
insert into book5 values(34,56,2345);  
insert into book5 values(21,67,3004);  
insert into book5 values(51,5,2007);  
select * from book5;  
  
alter table book5  
add genre varchar2(10);  
  
update book5 set genre='novel' where id=5;
```

The Results window displays the output of the `select * from book5;` command:

BOOKID	ID	PUBLISHYEAR	GENRE
23	45	2002	-
34	56	2345	horor
21	67	3004	-
51	5	2007	novel

4 rows returned in 0.00 seconds

## Drop command -

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

```
insert into book5 values(34,56,2345);  
insert into book5 values(21,67,3004);  
insert into book5 values(51,5,2007);  
select * from book5;  
  
alter table book5  
add genre varchar2(10);  
  
update book5 set genre='novel' where id=5;  
  
alter table book5 drop column genre;
```

The Results window displays the output of the `select * from book5;` command:

BOOKID	ID	PUBLISHYEAR
23	45	2002
34	56	2345
21	67	3004
51	5	2007

4 rows returned in 0.00 seconds