 *INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG*

*DEPARTMRNT OF COMPUTER SCIENCE & ENGINEERING*

**Project on :** Courier Management System

**Course code :** CSE-2424

**Course title :** Database Management Systems Lab

***Submitted by-***

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**Semester :** 4th

**Section :** 4AF

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***Submitted to-***

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*Associate Professor*

*Department of CSE, IIUC*

* **What is courier?**
* A courier is a person or organization that delivers a message, package or letter from one place or person to another place or person.
* **What does mean courier management system?**
* A courier delivery management system, or CMS, is business software that simplifies courier management and routing.
* Courier management refers to the organization and coordination of last-mile -delivery  operations. It involves scheduling deliveries, assigning couriers, managing operations, optimizing routes, and controlling fuel and expense costs. A courier management system, also known as courier software, manages the transportation of shipments from the warehouse to the customer. It automates the many operations involved in delivery businesses, such as real-time tracking.
* **Advantage of courier management system:**
* They help transport businesses manage the dispatch of packages. With the rise of next-day and same-day delivery demands, a reliable courier management system is a must-have
* There are three main objectives of courier management: Deliver products to customers. Support the couriers delivering those products. Ensure that customers have a great buying experience, so they come back for more.

***CONCEPTUAL ER-DIAGRAM***

***NORMALIZED ER-DIAGRAM***

***DATABASE SCHEMA***

**1.ADMIN** (A\_ID, A\_NAME, MOBILE\_NO, EMAIL,ADDRESS)

**2.COURIER** (CO\_ID, CONTACT\_NUM, CO\_NAME)

**3.CUSTOMER** (C\_ID,C\_NAME,C\_EMAIL,C\_MOBILE\_NO,C\_ADDRESS)

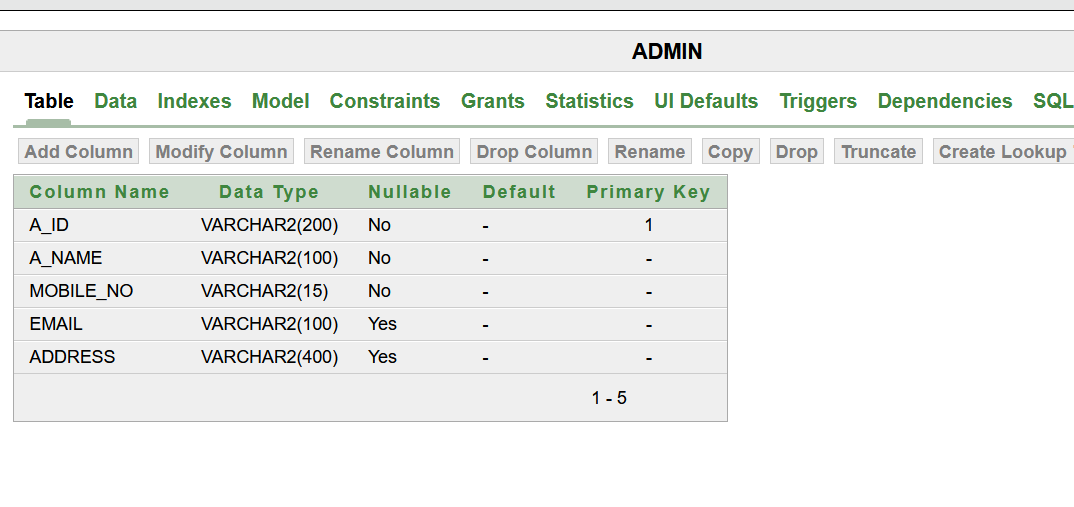
**4.ITEM** (ITEM\_ID,ITEM\_NAME,ITEM\_CODE,ITEM\_WEIGHT)

**5.PARCEL** (P\_ID,AMOUNT,PRICE,DELIVERY\_DATE)

**6.ROUTE** (R\_ID,ORIGIN,TIME\_OF\_ARRIVAL,LOCATION,DISPATCH\_CENTER)

***DDL STATEMENT***

* **ADMIN TABLE**

****

**SQL**

CREATE TABLE "ADMIN"

( "A\_ID" VARCHAR2(200) NOT NULL ENABLE,

"A\_NAME" VARCHAR2(100) NOT NULL ENABLE,

"MOBILE\_NO" VARCHAR2(15) NOT NULL ENABLE,

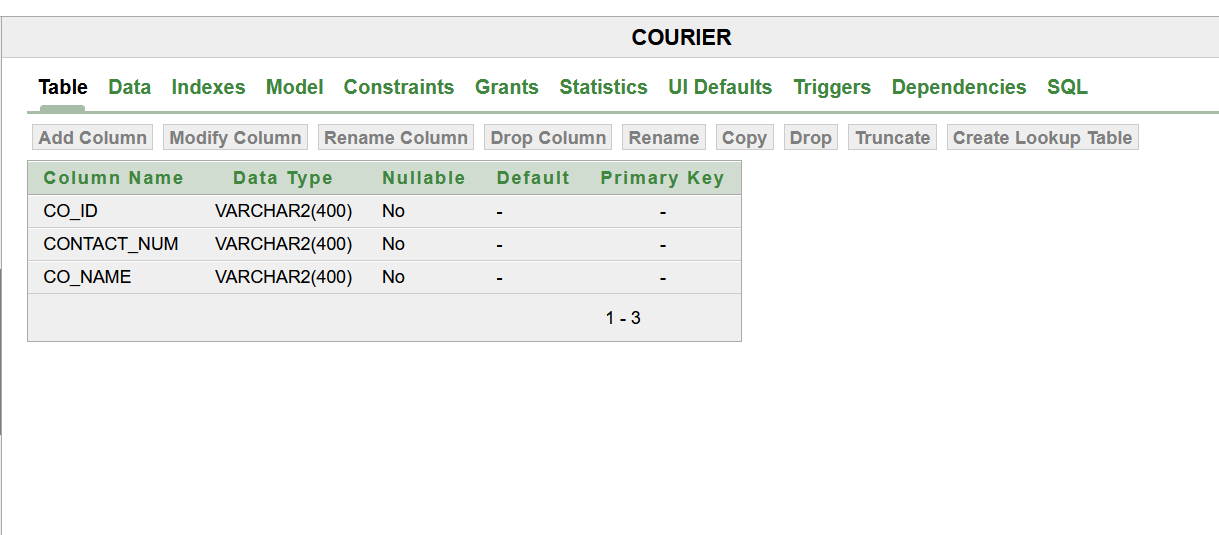
"EMAIL" VARCHAR2(100),

"ADDRESS" VARCHAR2(400),

CONSTRAINT "ADMIN\_PK" PRIMARY KEY ("A\_ID") ENABLE

)

/

* **COURIER TABLE**

**SQL**

CREATE TABLE "COURIER"

( "CO\_ID" VARCHAR2(400) NOT NULL ENABLE,

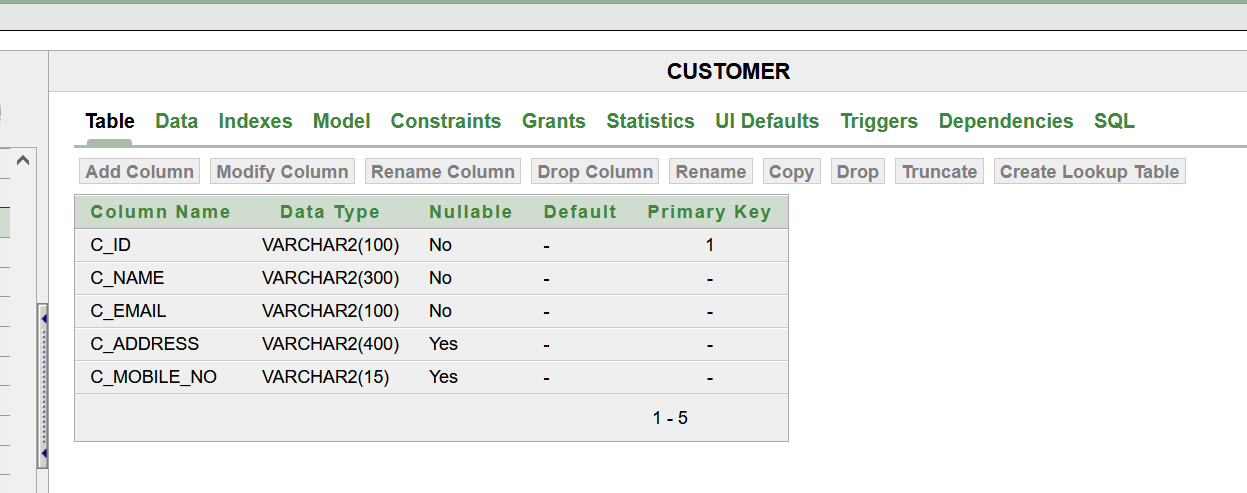
"CONTACT\_NUM" VARCHAR2(400) NOT NULL ENABLE,

"CO\_NAME" VARCHAR2(400) NOT NULL ENABLE

)

**/**

* **CUSTOMER TABLE**

****

**SQL**

CREATE TABLE "CUSTOMER"

( "C\_ID" VARCHAR2(100) NOT NULL ENABLE,

"C\_NAME" VARCHAR2(300) NOT NULL ENABLE,

"C\_EMAIL" VARCHAR2(100) NOT NULL ENABLE,

"C\_ADDRESS" VARCHAR2(400),

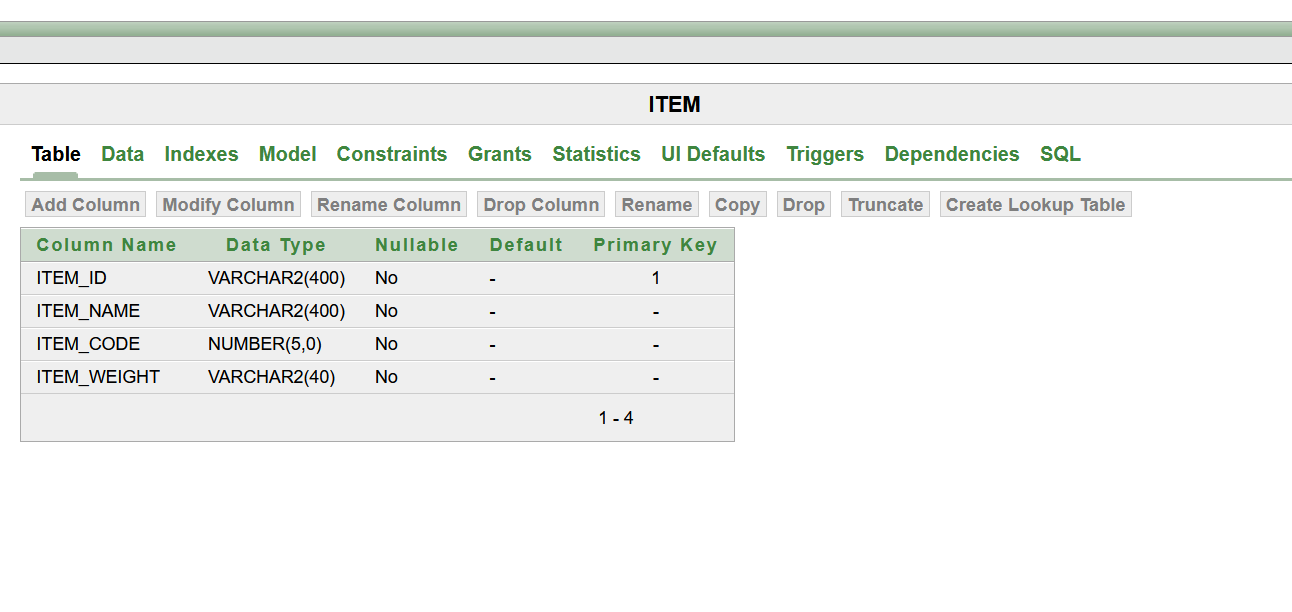
"C\_MOBILE\_NO" VARCHAR2(15),

CONSTRAINT "CUSTOMER\_PK" PRIMARY KEY ("C\_ID") ENABLE

)

/

* **ITEM TABLE**

****

**SQL**

CREATE TABLE "ITEM"

( "ITEM\_ID" VARCHAR2(400) NOT NULL ENABLE,

"ITEM\_NAME" VARCHAR2(400) NOT NULL ENABLE,

"ITEM\_CODE" NUMBER(5,0) NOT NULL ENABLE,

"ITEM\_WEIGHT" VARCHAR2(40) NOT NULL ENABLE,

CONSTRAINT "ITEM\_PK" PRIMARY KEY ("ITEM\_ID") ENABLE,

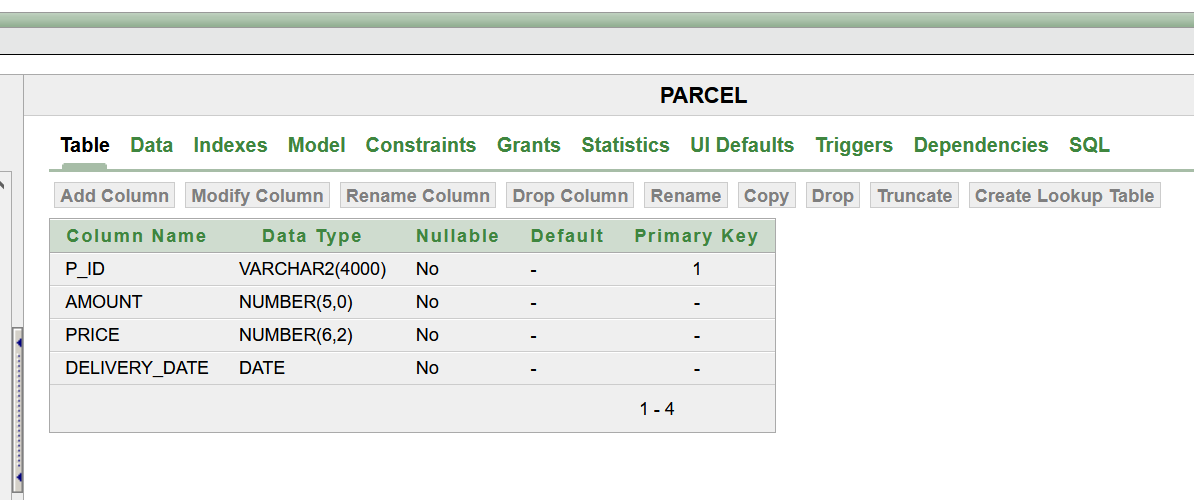
CONSTRAINT "ITEM\_CK1" CHECK (Item\_Weight<'50kg') ENABLE

)

/

* **PARCEL TABLE**

|  |
| --- |
|  |

****

**SQL**

CREATE TABLE "PARCEL"

( "P\_ID" VARCHAR2(4000) NOT NULL ENABLE,

"AMOUNT" NUMBER(5,0) NOT NULL ENABLE,

"PRICE" NUMBER(6,2) NOT NULL ENABLE,

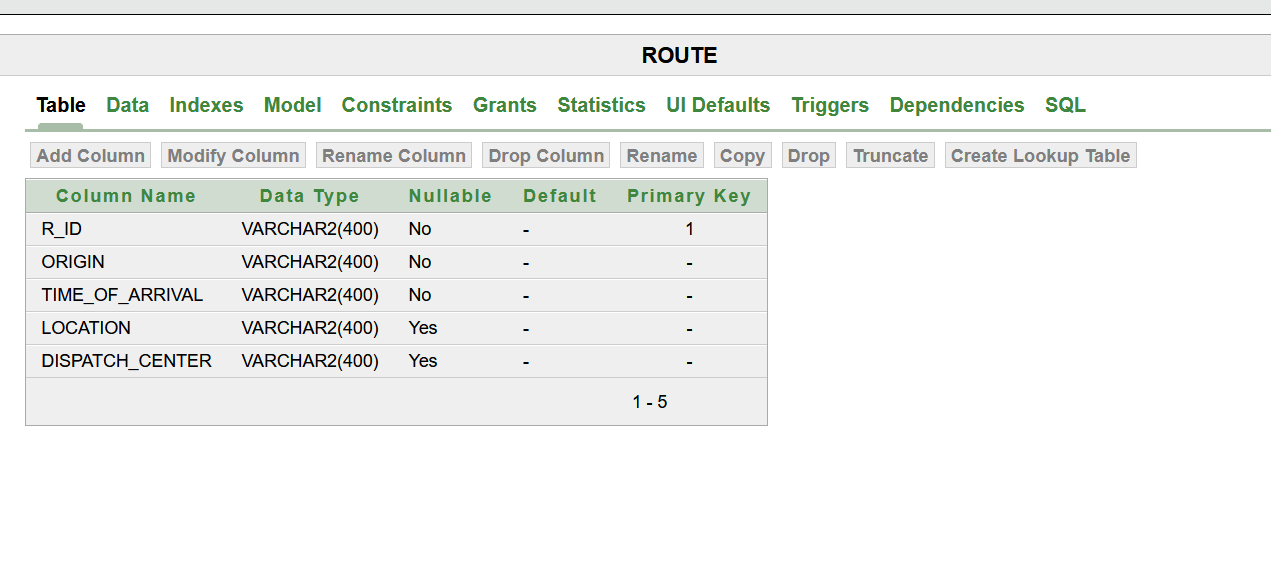
"DELIVERY\_DATE" DATE NOT NULL ENABLE,

CONSTRAINT "PARCEL\_PK" PRIMARY KEY ("P\_ID") ENABLE

)

/

* **ROUTE TABLE**

****

**SQL**

CREATE TABLE "ROUTE"

( "R\_ID" VARCHAR2(400) NOT NULL ENABLE,

"ORIGIN" VARCHAR2(400) NOT NULL ENABLE,

"TIME\_OF\_ARRIVAL" VARCHAR2(400) NOT NULL ENABLE,

"LOCATION" VARCHAR2(400),

"DISPATCH\_CENTER" VARCHAR2(400),

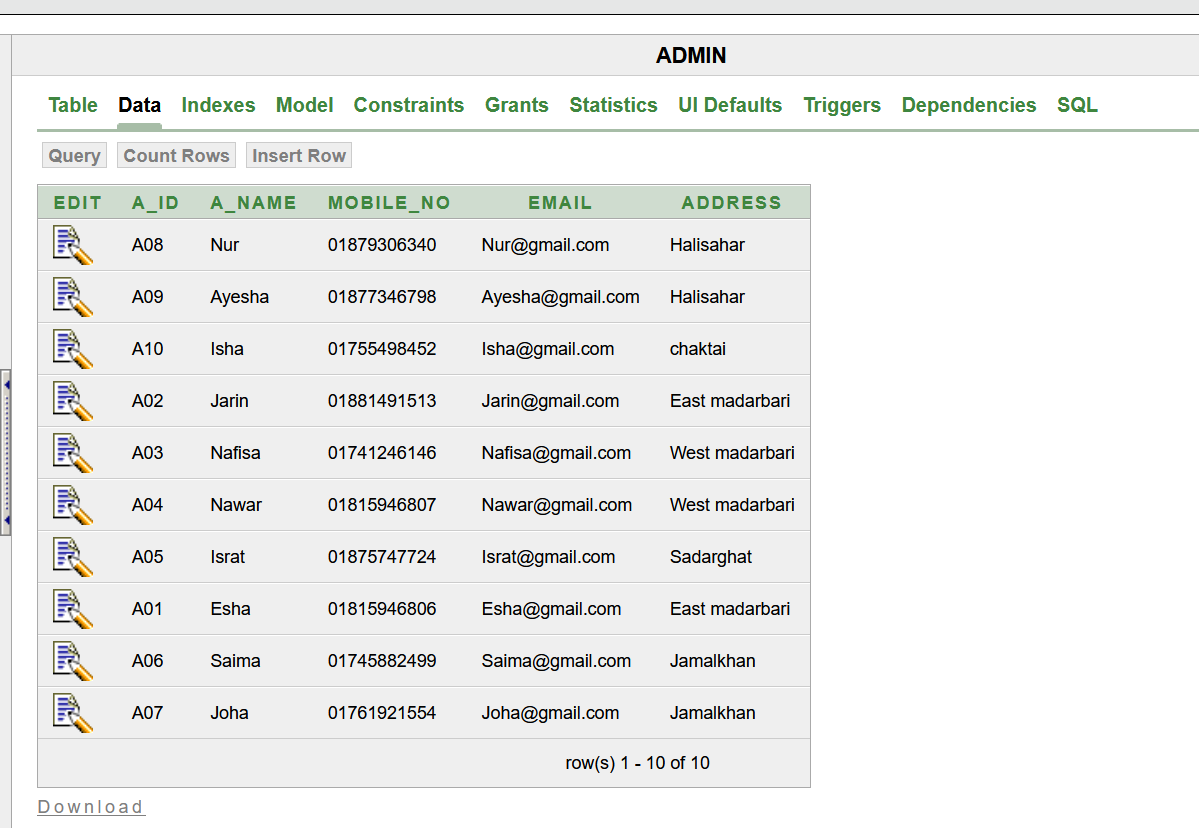
CONSTRAINT "ROUTE\_PK" PRIMARY KEY ("R\_ID") ENABLE

)

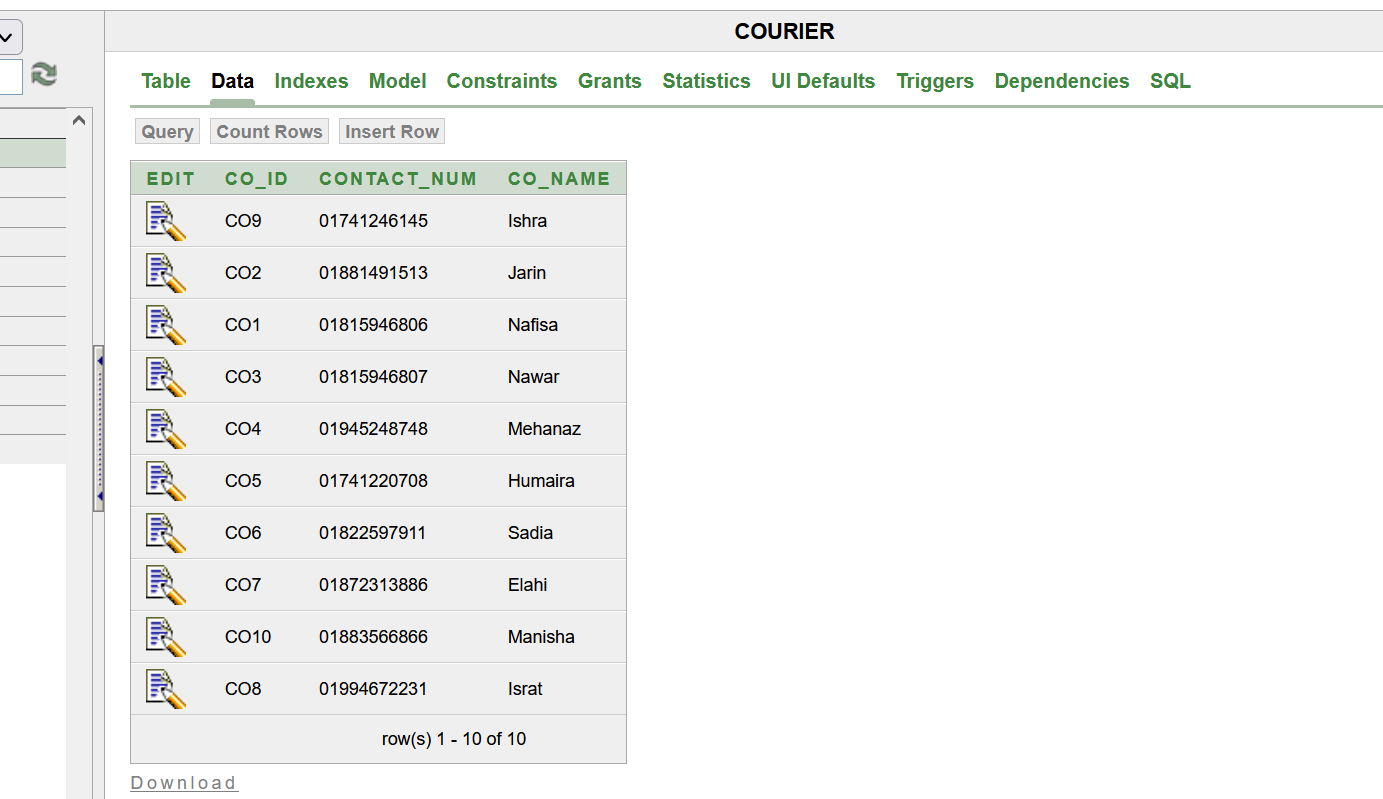
/

***DML STATEMENT***

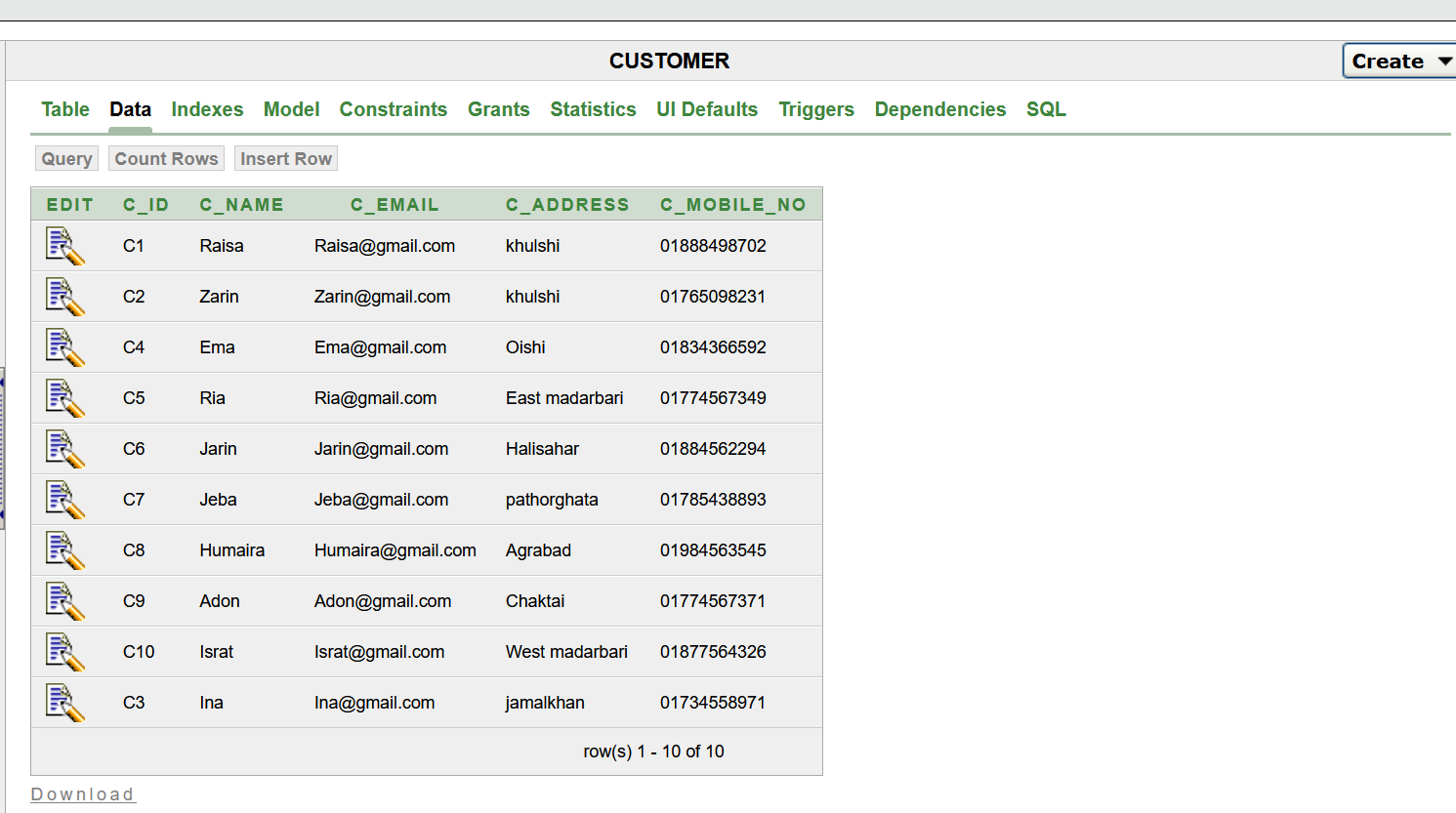
* **DATA IN ADMIN TABLE**

******

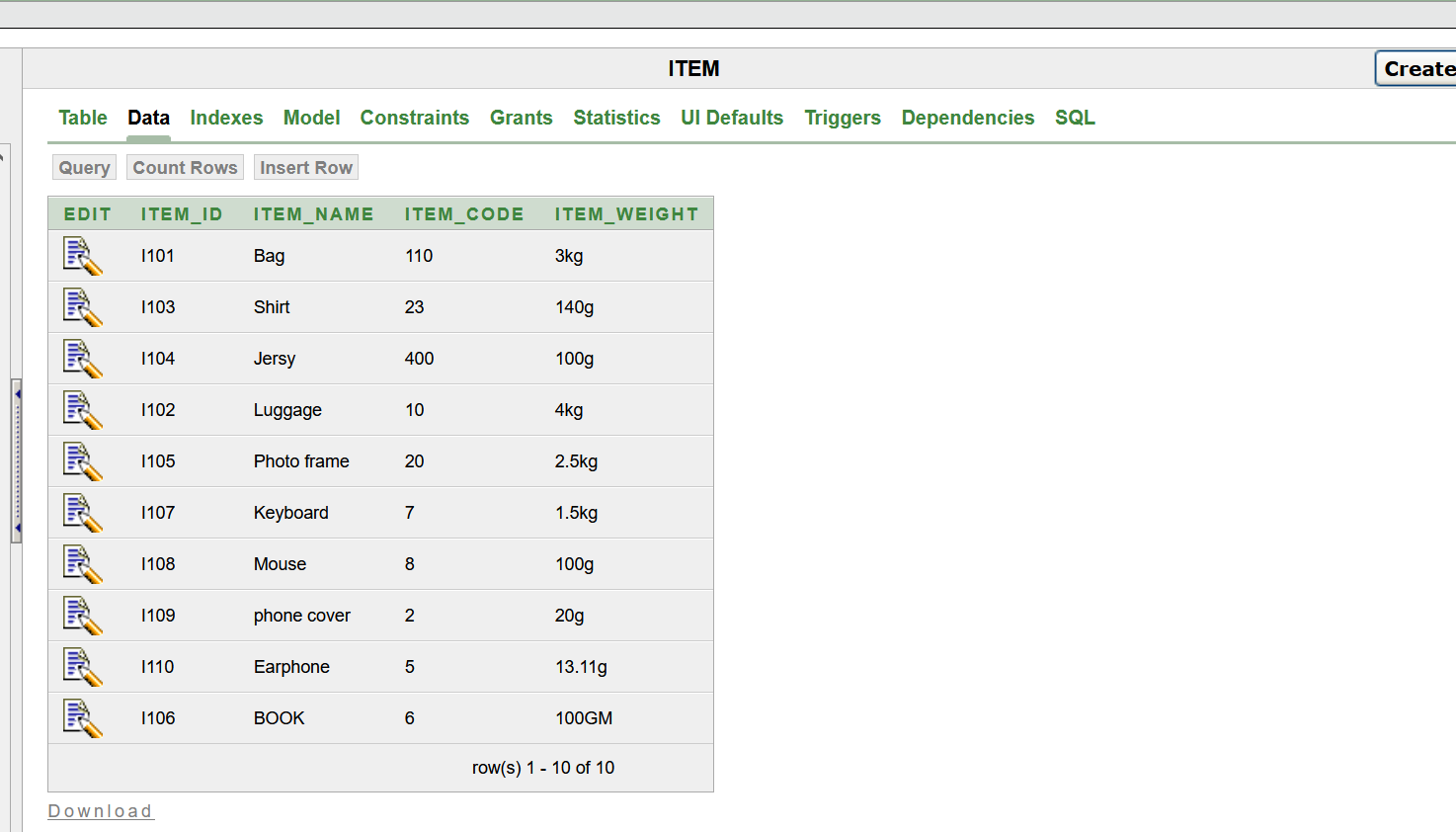
* **DATA IN COURIER TABLE**

******

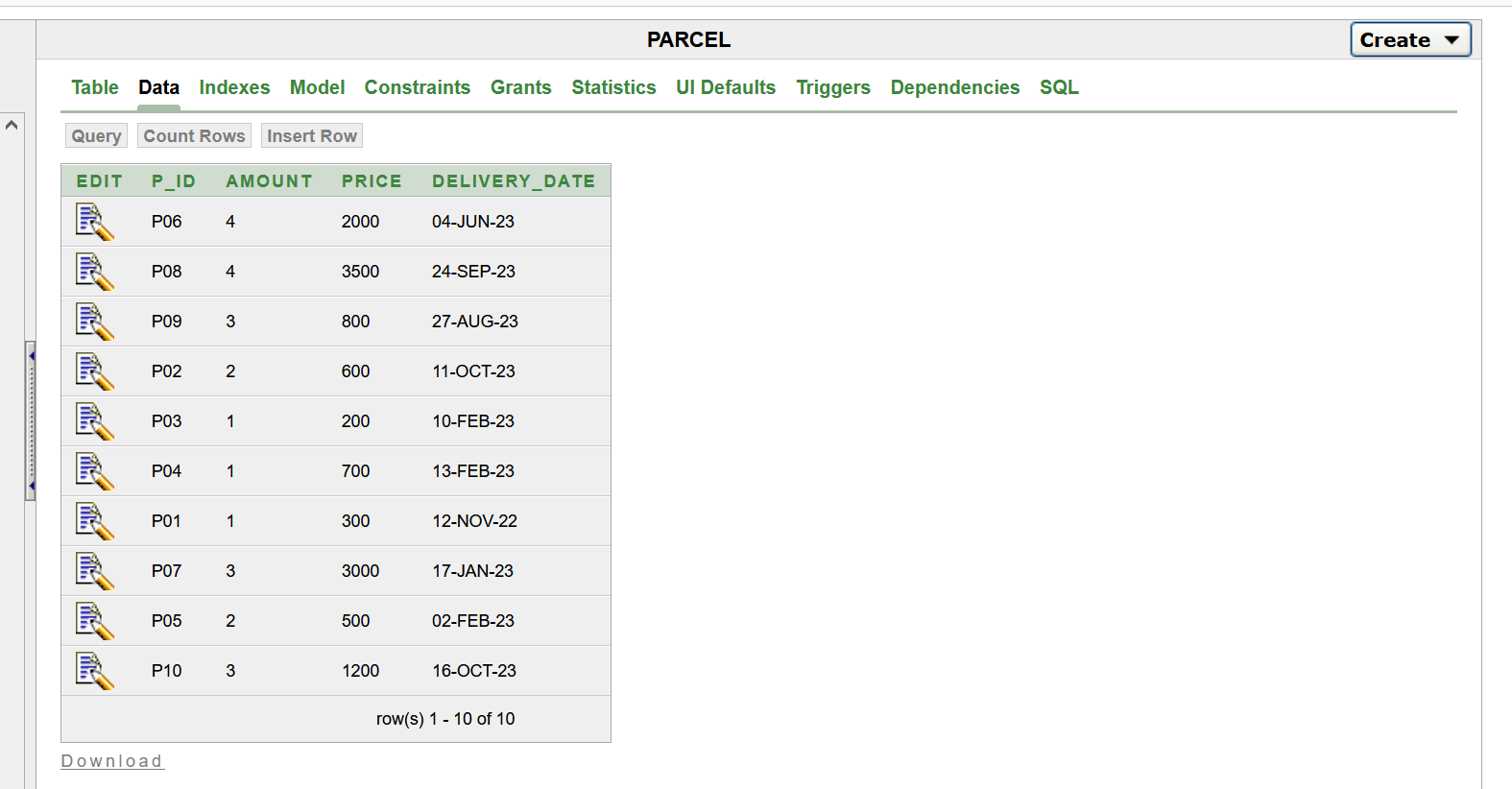
* **DATA IN CUSTOMER TABLE**

****

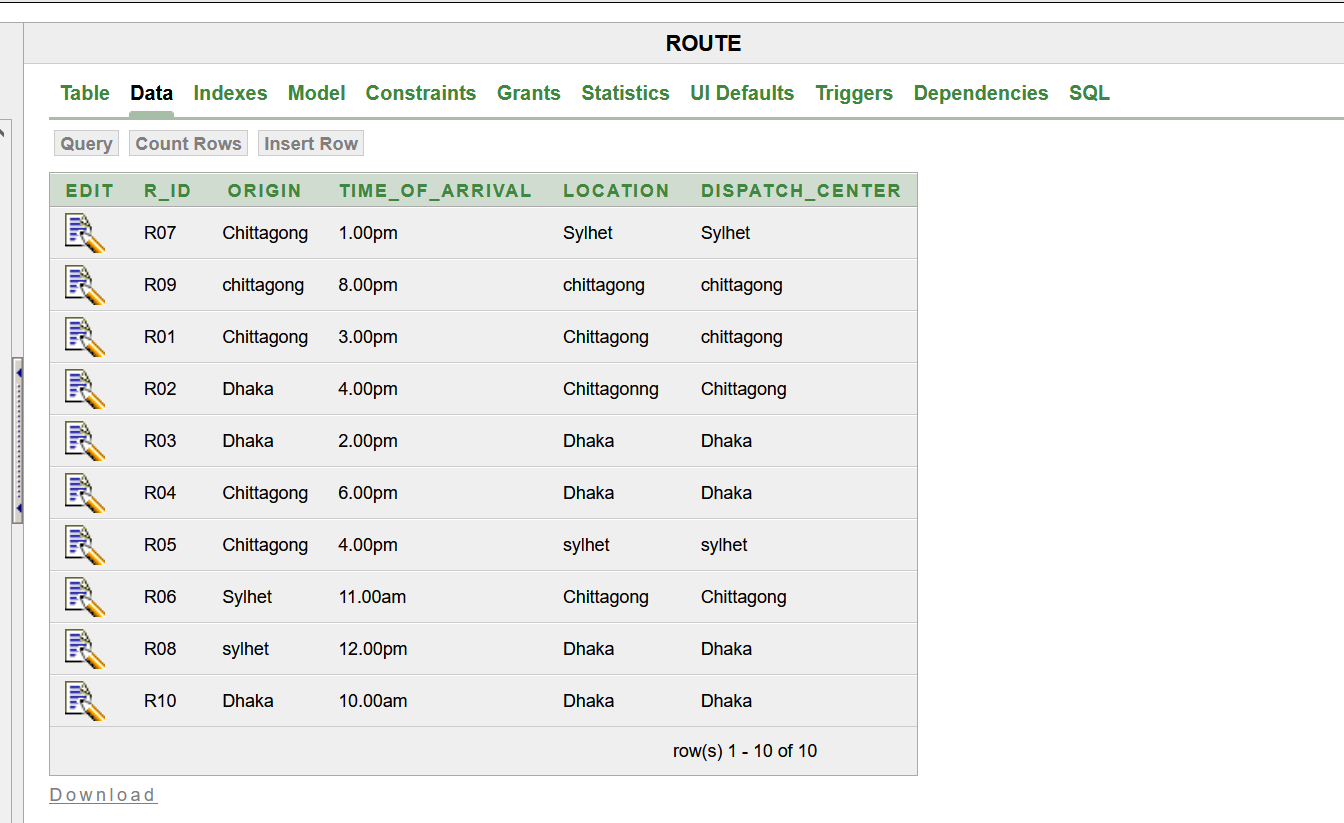
* **DATA IN ITEM TABLE**

****

* **DATA IN PARCEL TABLE**

****

* **DATA IN ROUTE TABLE**

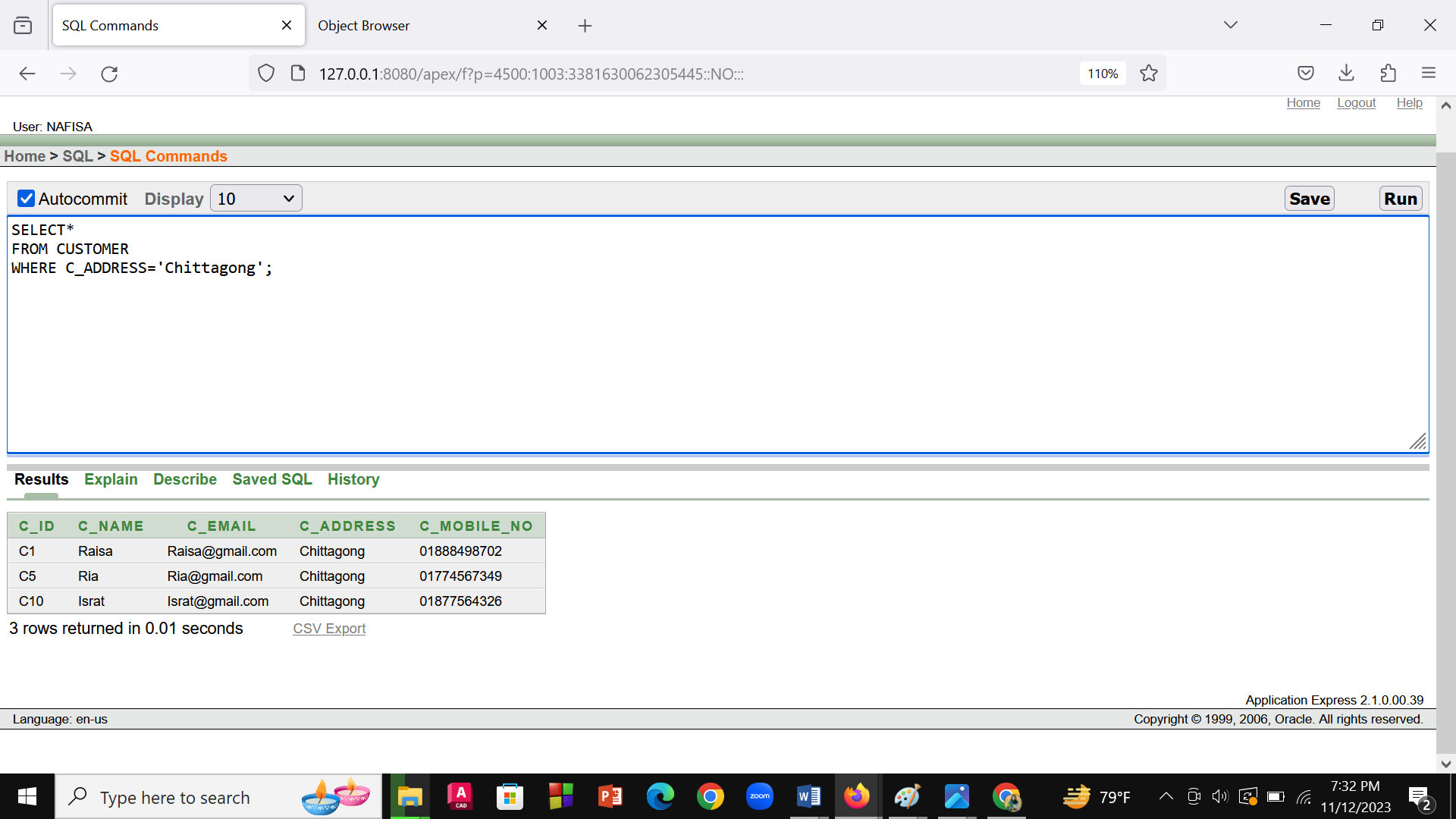
****

3.Find those customer who live in Bangladesh

SELECT\*

FROM CUSTOMER

WHERE C\_ADDRESS='Chittagong';

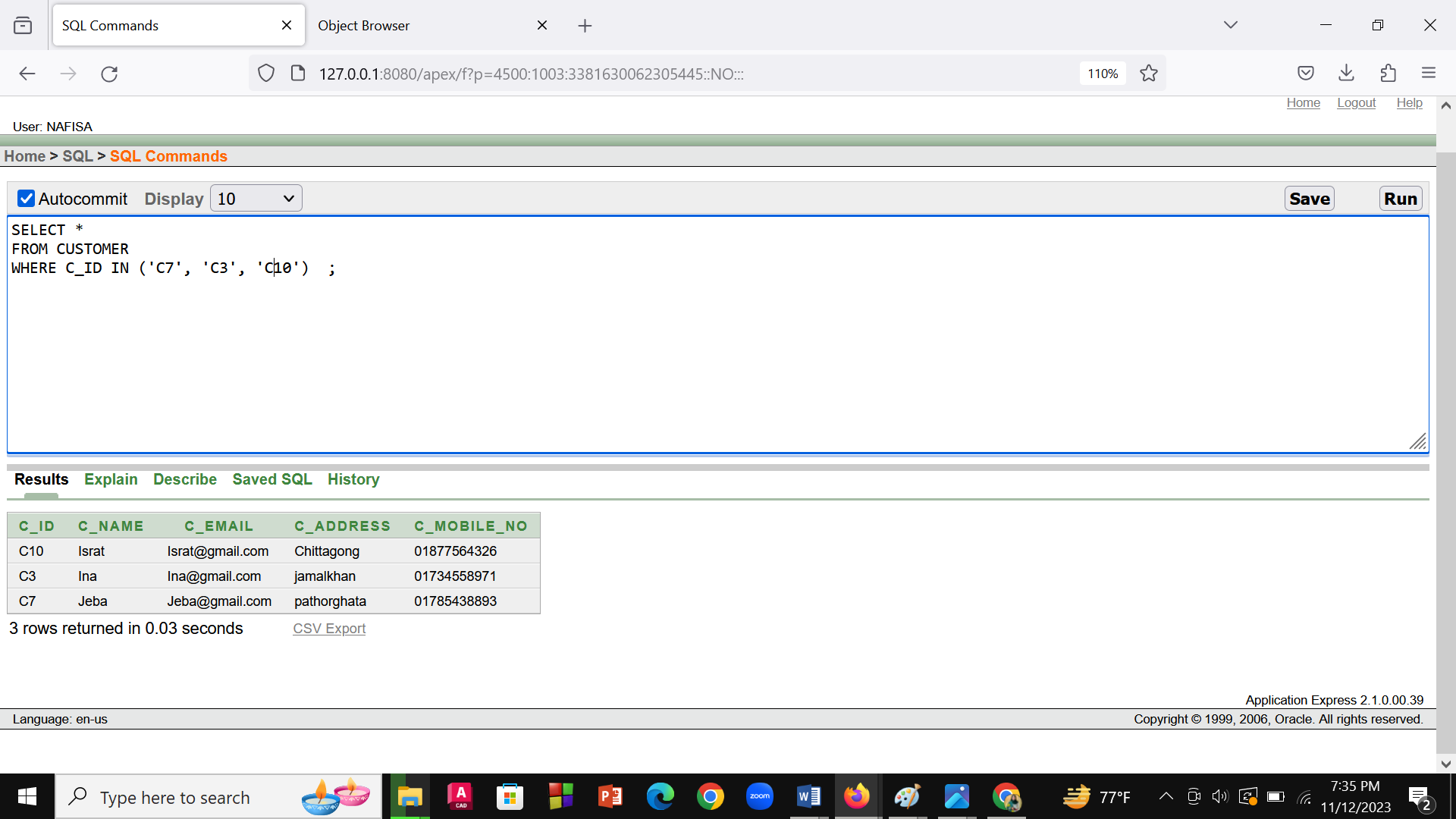


**4.** Find that customer whose id is C3, C7, C10

SELECT \*

FROM CUSTOMER

WHERE C\_ID IN ('C7', 'C3', 'C10') ;

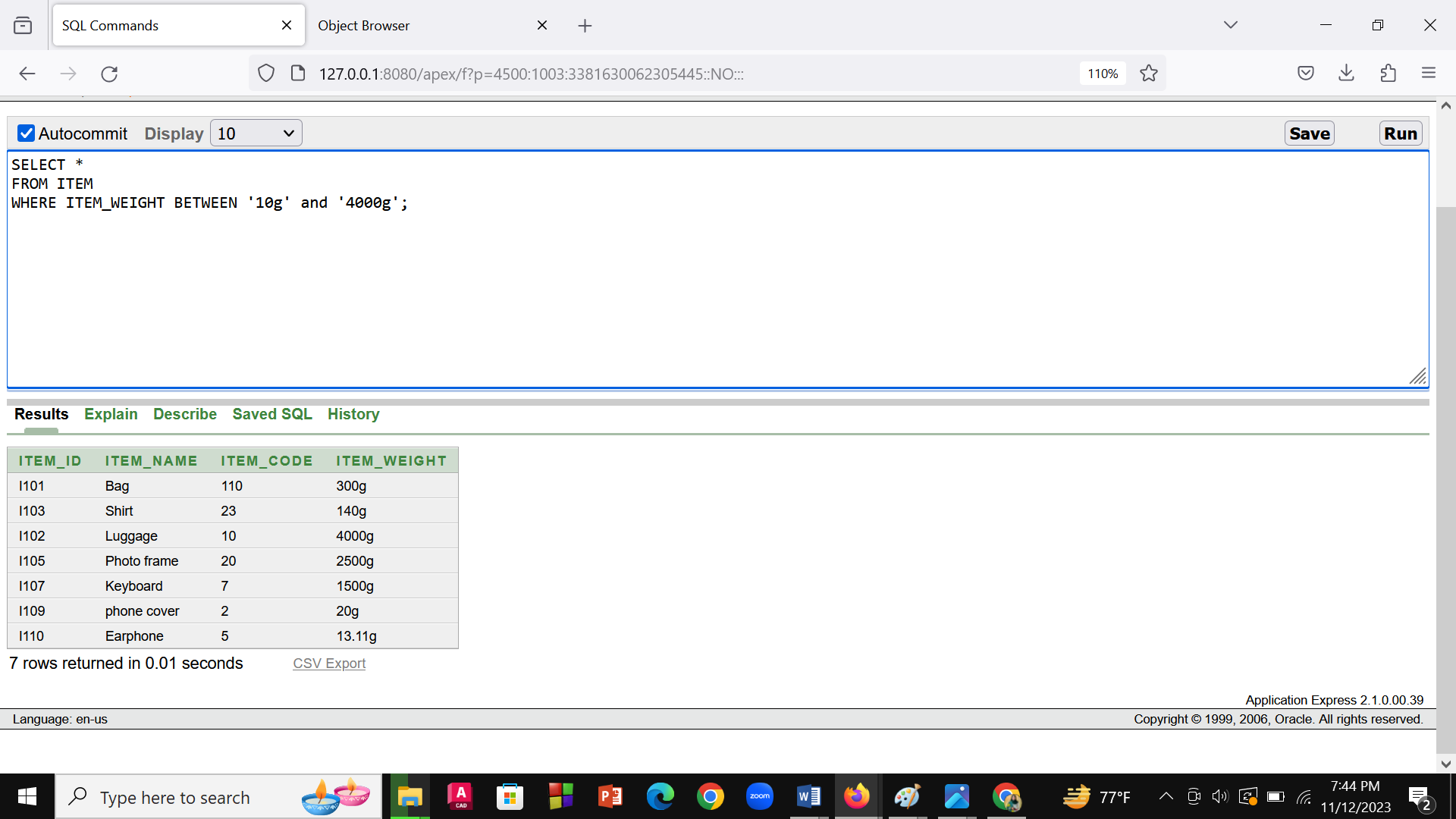


*5.* Find that item which weight between 10g to 4000kg

SELECT \*

FROM ITEM

WHERE ITEM\_WEIGHT BETWEEN '10g' and '4000g';

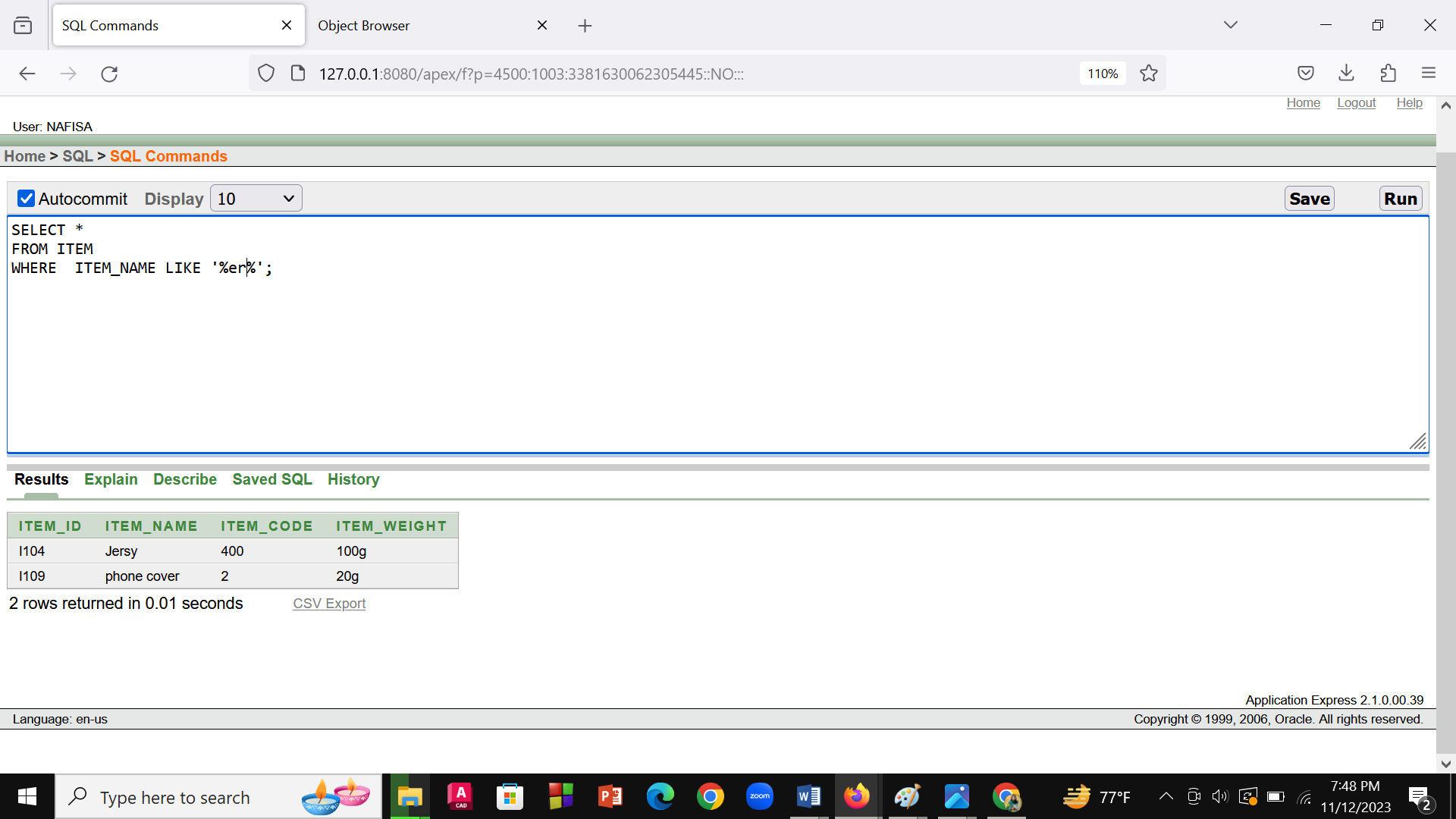


*6.* *Find that name of items which strings ‘er’.*

*SELECT \**

*FROM ITEM*

*WHERE ITEM\_NAME LIKE '%er%';*

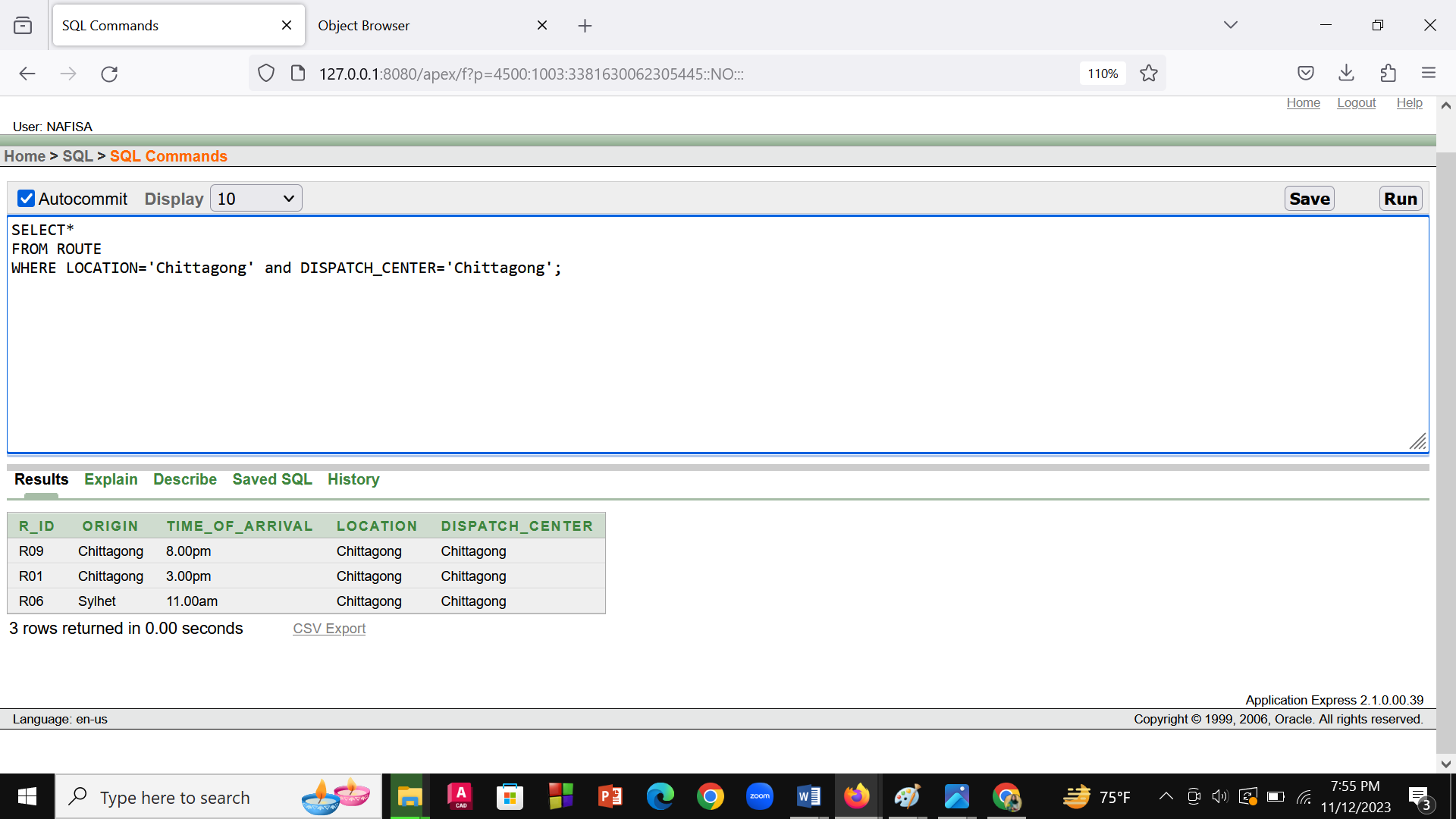


*7.* Find those parcel which location and dispatch center is in same district Chittagong.

*SELECT\**

*FROM ROUTE*

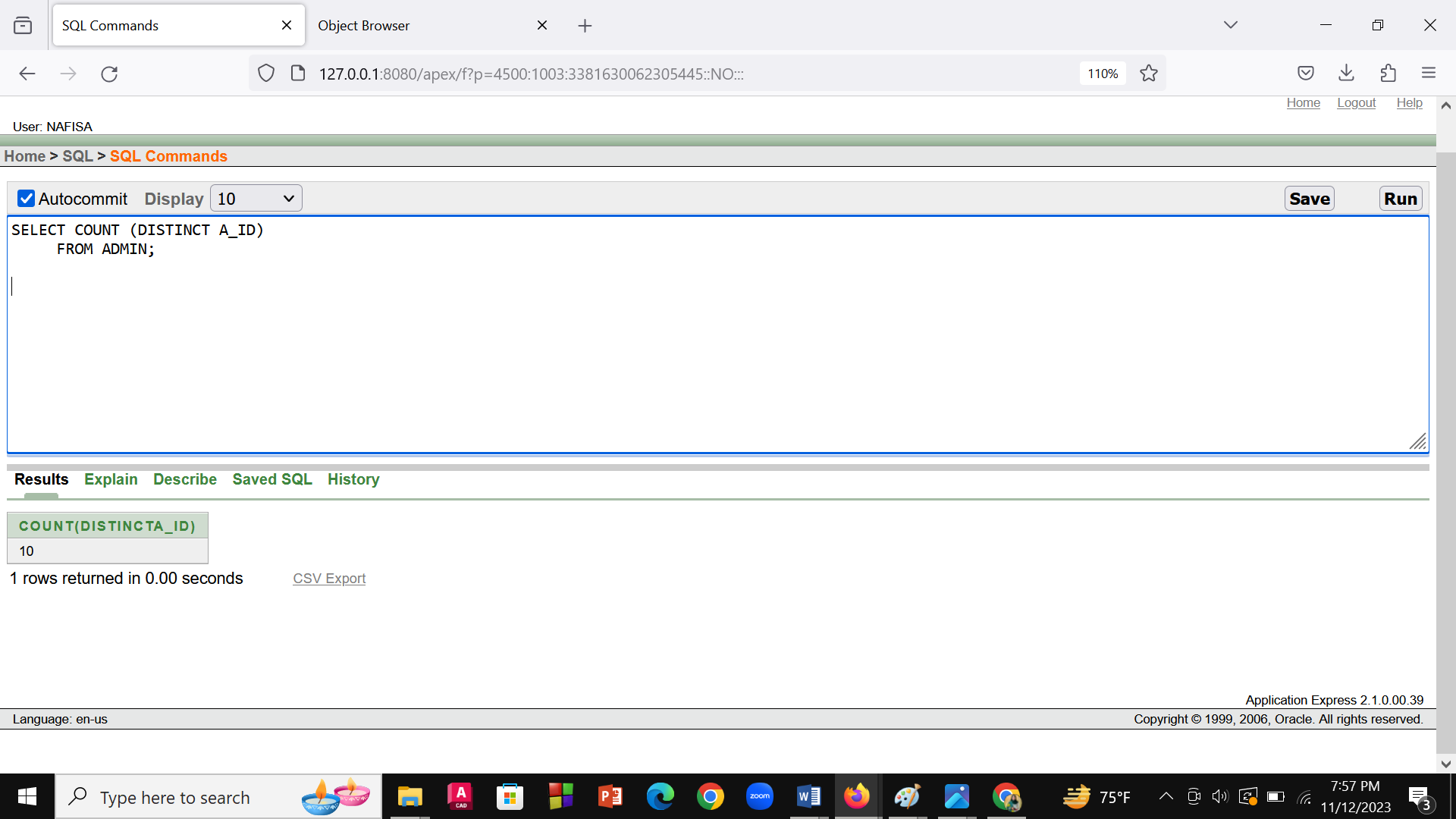
*WHERE LOCATION='Chittagong' and DISPATCH\_CENTER='Chittagong';*



*8.* Find Total admin from the table Admin.

*SELECT COUNT (DISTINCT A\_ID)*

*FROM ADMIN;*

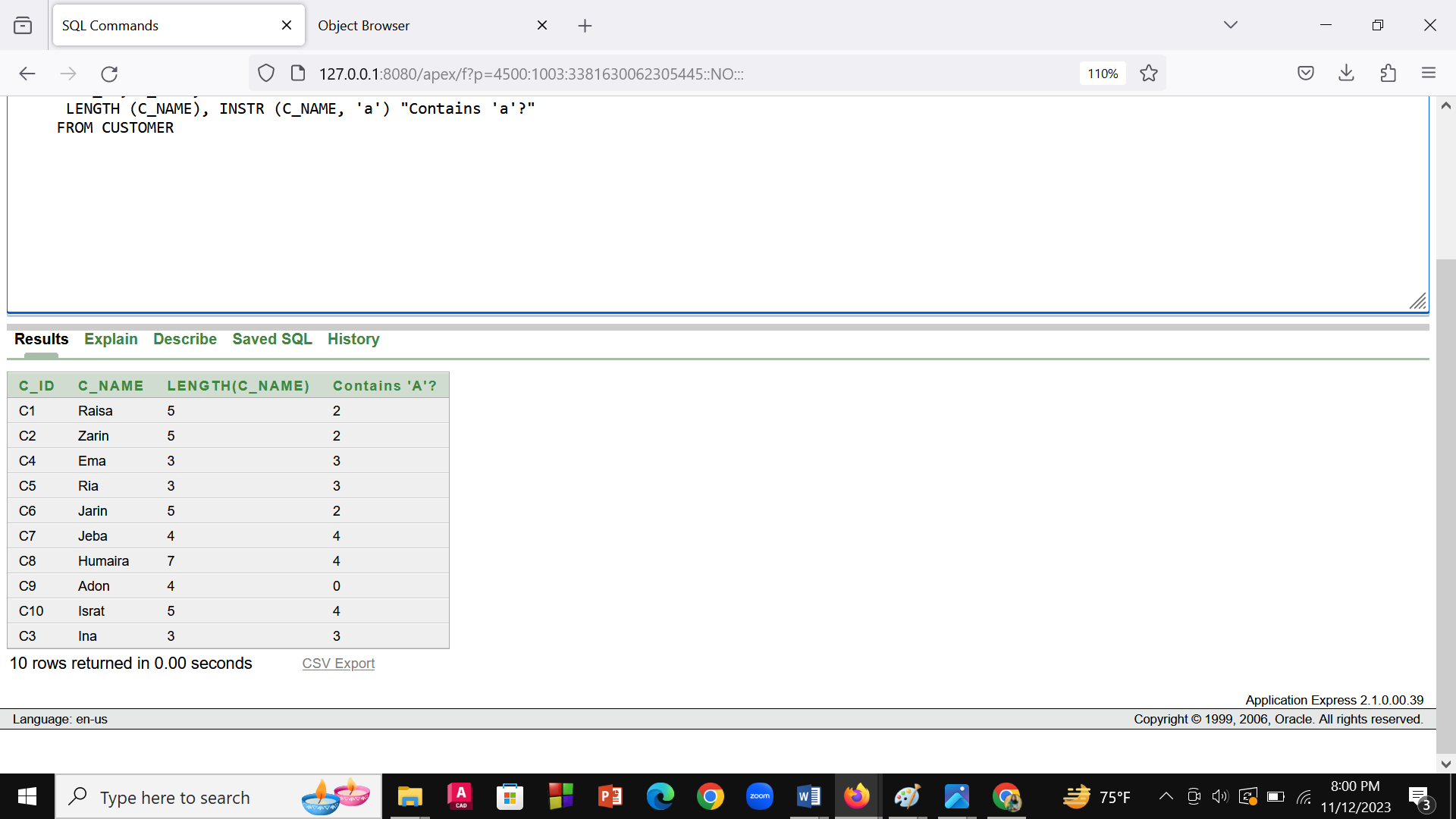


**9.** Find the length of customer name and contains “a” from customer table

**SELECT C\_ID, C\_NAME,**

**LENGTH (C\_NAME), INSTR (C\_NAME, 'a') "Contains 'a'?"**

**FROM CUSTOMER**

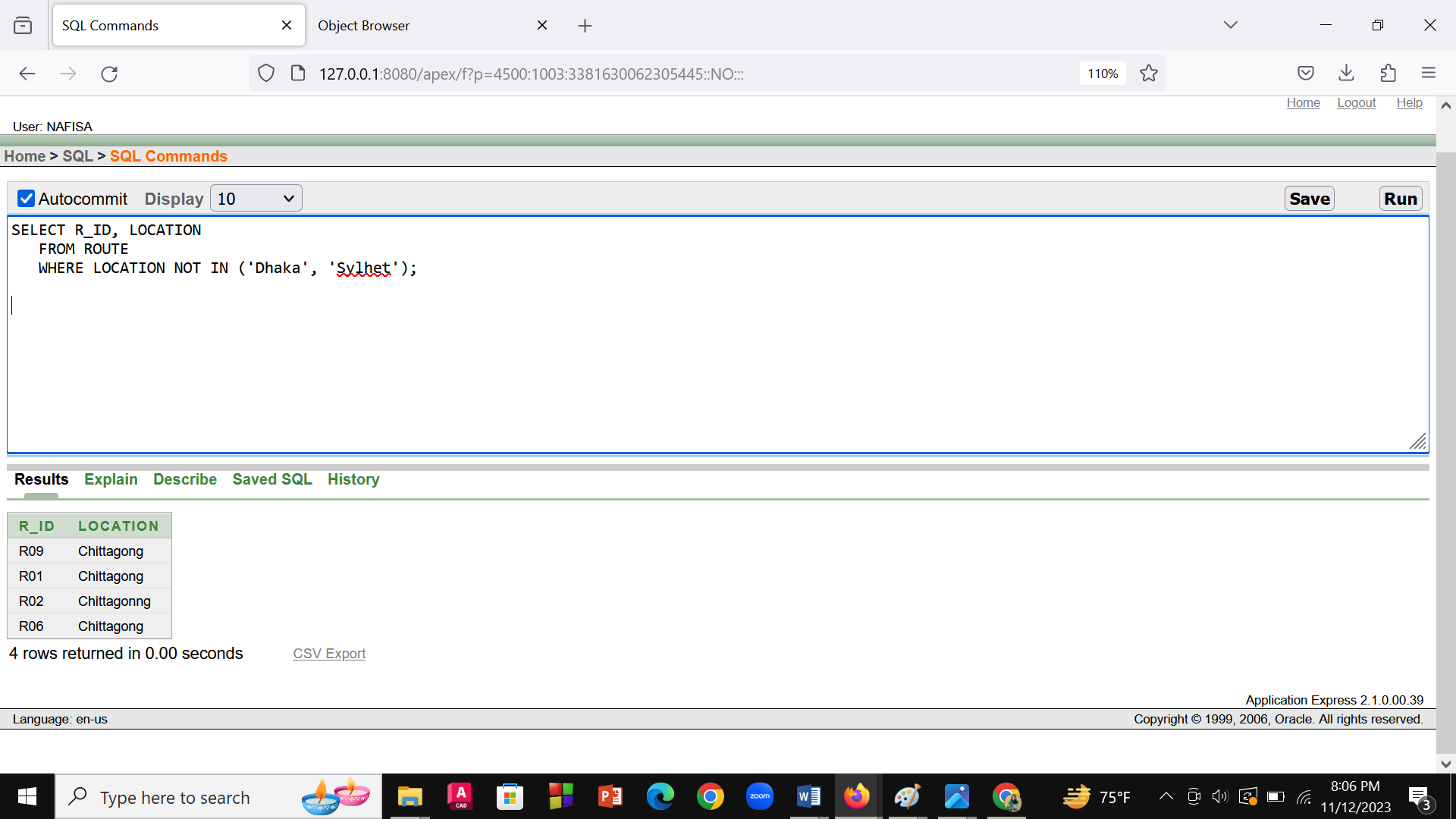


**10.** Find those parcels location which not belongs to Dhaka and Sylhet from route table.

*SELECT R\_ID, LOCATION*

*FROM ROUTE*

*WHERE LOCATION NOT IN ('Dhaka', 'Sylhet');*



**Searching all data from multiple table :**

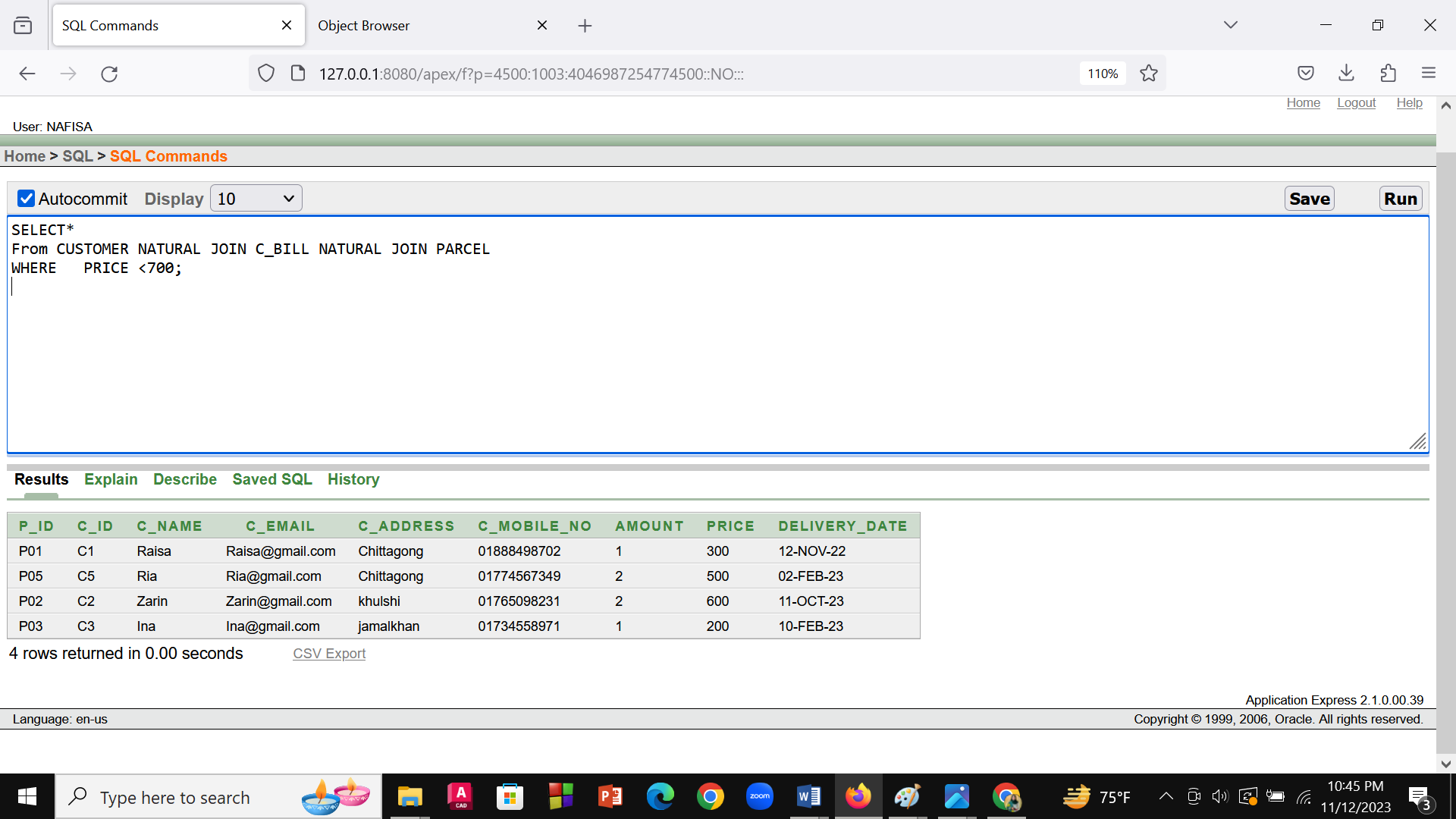
Query-1

Show the all data of table Customer and Parcel using full outer join

**SELECT\***

**From CUSTOMER NATURAL JOIN C\_BILL NATURAL JOIN PARCEL**

**WHERE PRICE <700;**

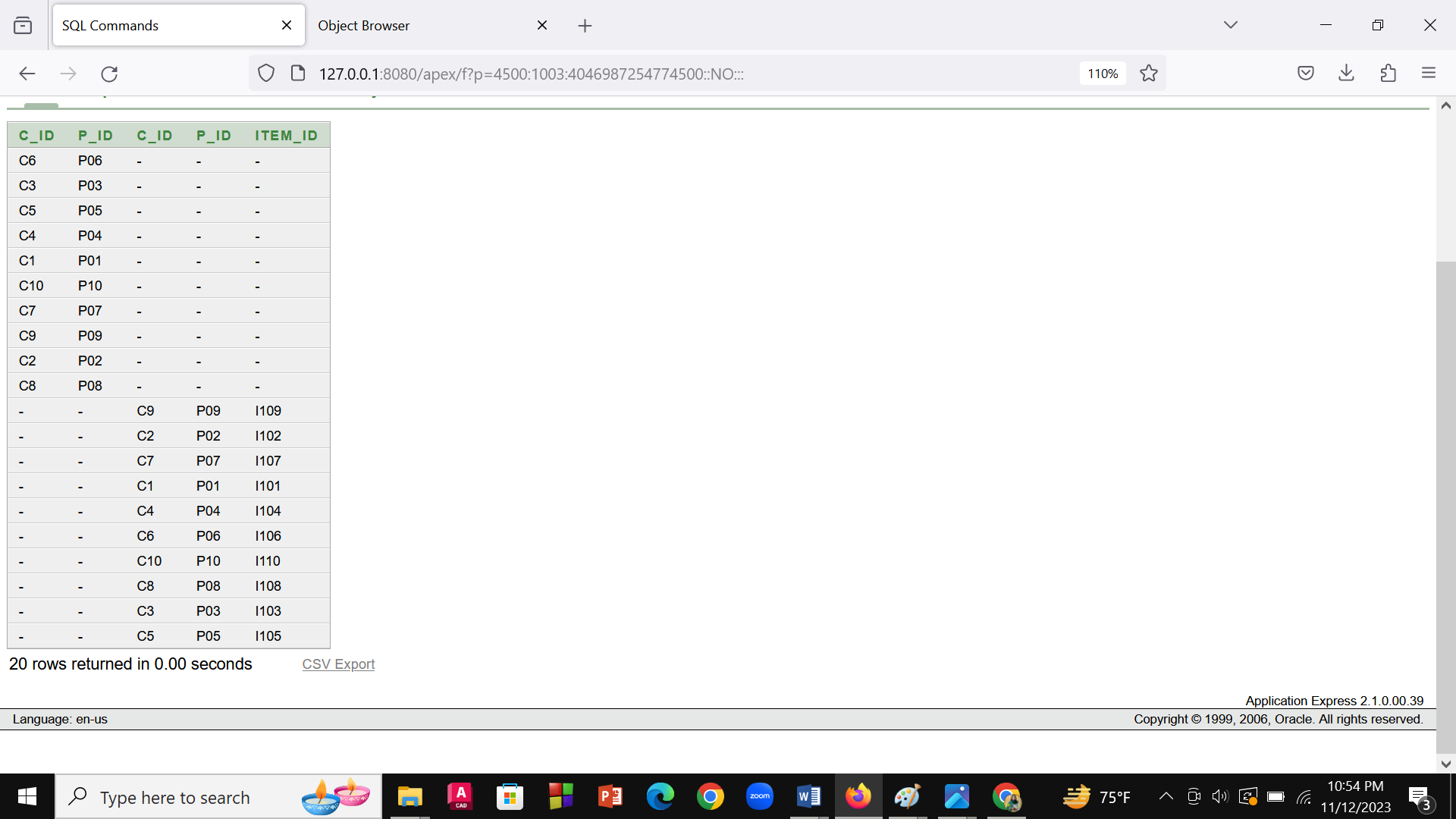


**2.** Show the all data of table C\_BILL and Manage using full outer join.

SELECT B.C\_ID, B.P\_ID, M.C\_ID, M.P\_ID, M.ITEM\_ID

FROM C\_BILL B FULL OUTER join MANAGE M

ON (B.C\_ID=M.P\_ID);



Query-3

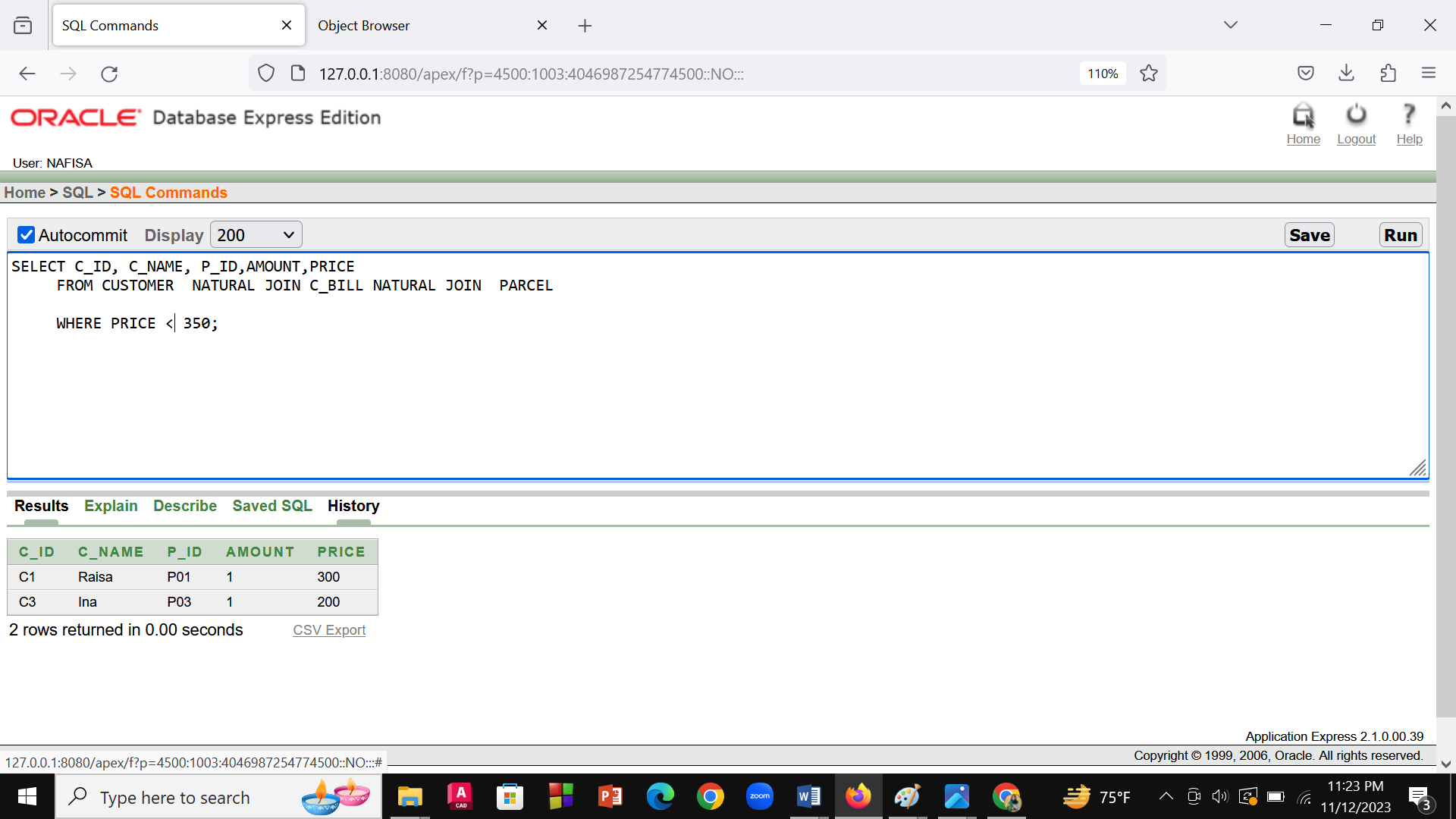
Show the CUSTOMER who paid amount less than 3500 TK.

*SELECT C.C\_ID, C.C\_NAME, P.P\_ID,P.AMOUNT, P.PRICE*

*FROM CUSTOMER C LEFT OUTER join PARCEL P*

*ON (C.C\_ID=P.P\_ID)*

*WHERE PRICE < 350;*



**SUB QUERY**

**1.Give information of all admin whose admin name is same as Jarin.**

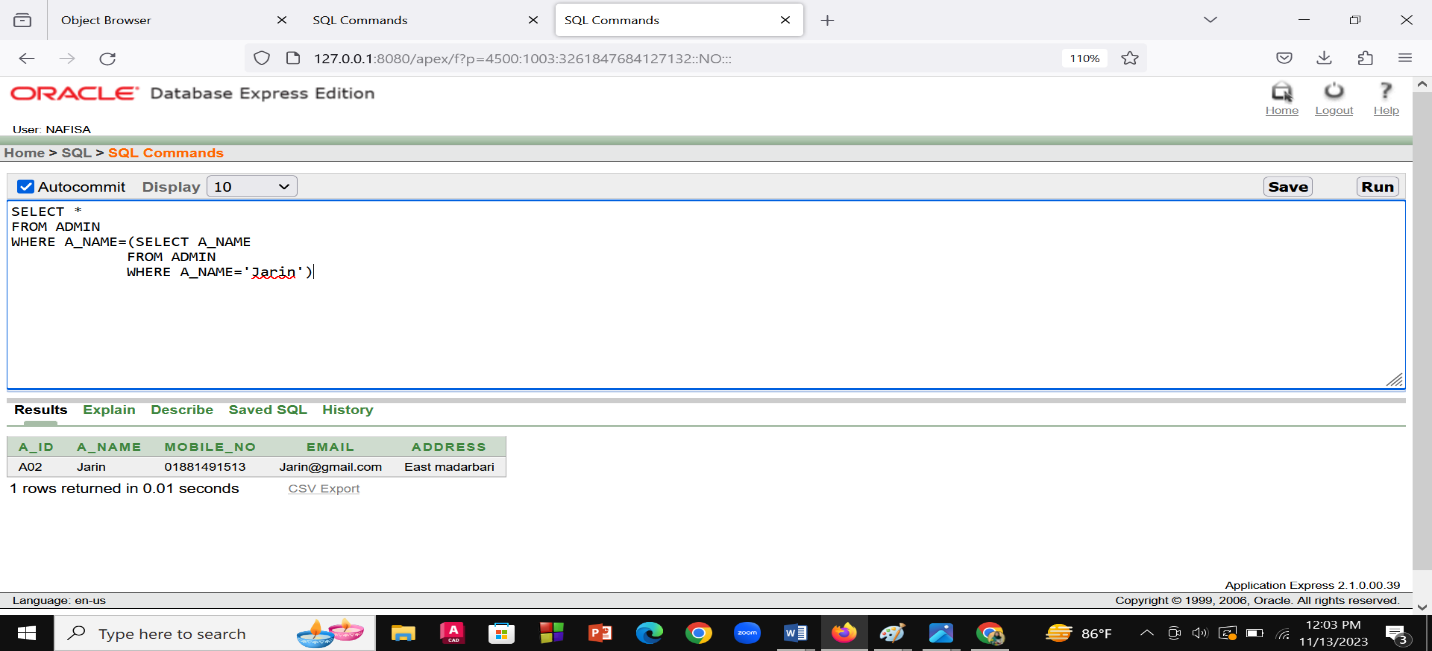
SELECT \*

FROM ADMIN

WHERE A\_NAME=(SELECT A\_NAME

FROM ADMIN

WHERE A\_NAME='Jarin')



2.Show the customer details whose customer address is not ‘Dhaka’.

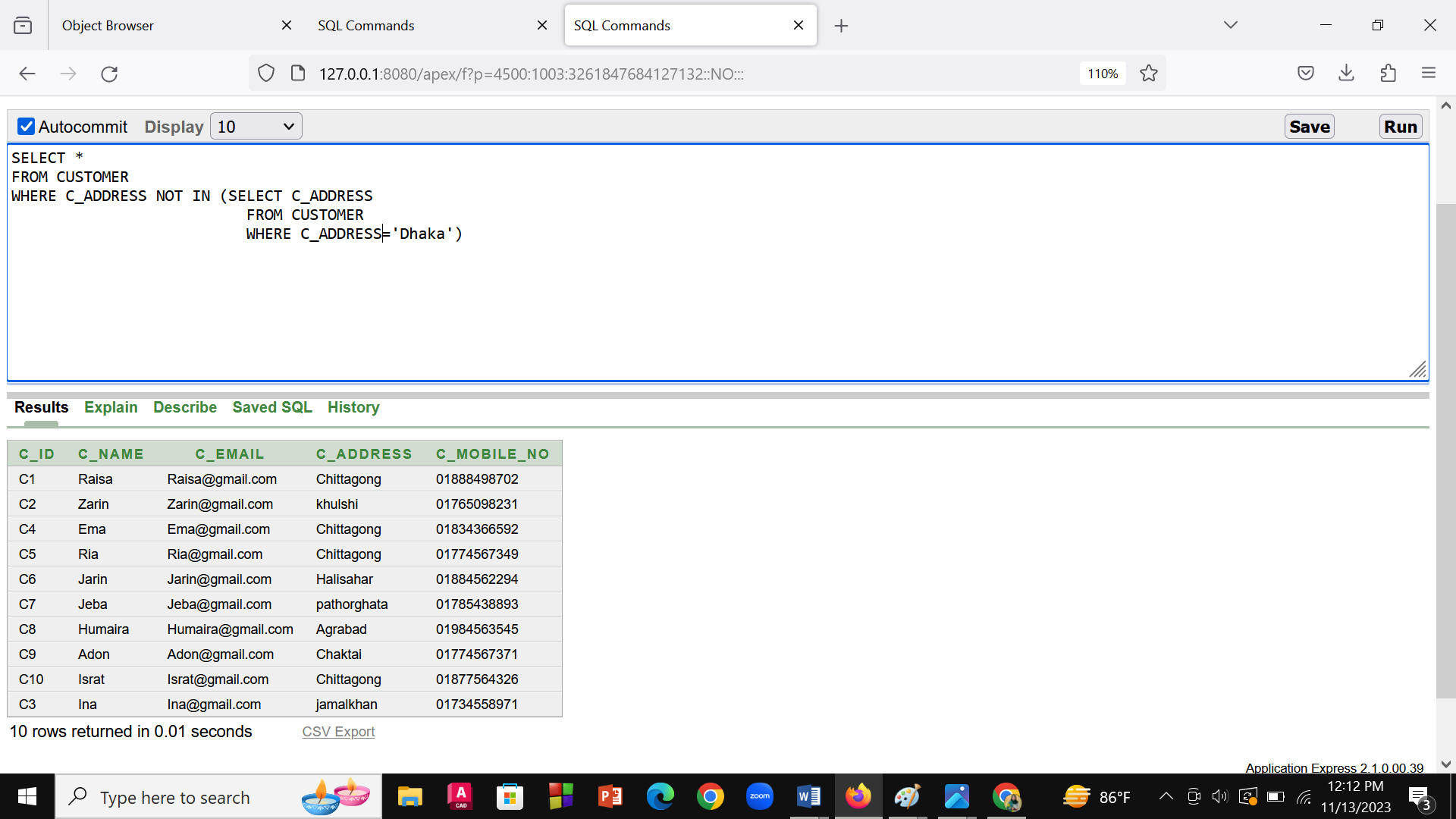
SELECT \*

FROM CUSTOMER

WHERE C\_ADDRESS NOT IN (SELECT C\_ADDRESS

FROM CUSTOMER

WHERE C\_ADDRESS='Dhaka')



3.Show the courier name of courier id ‘CO1’.

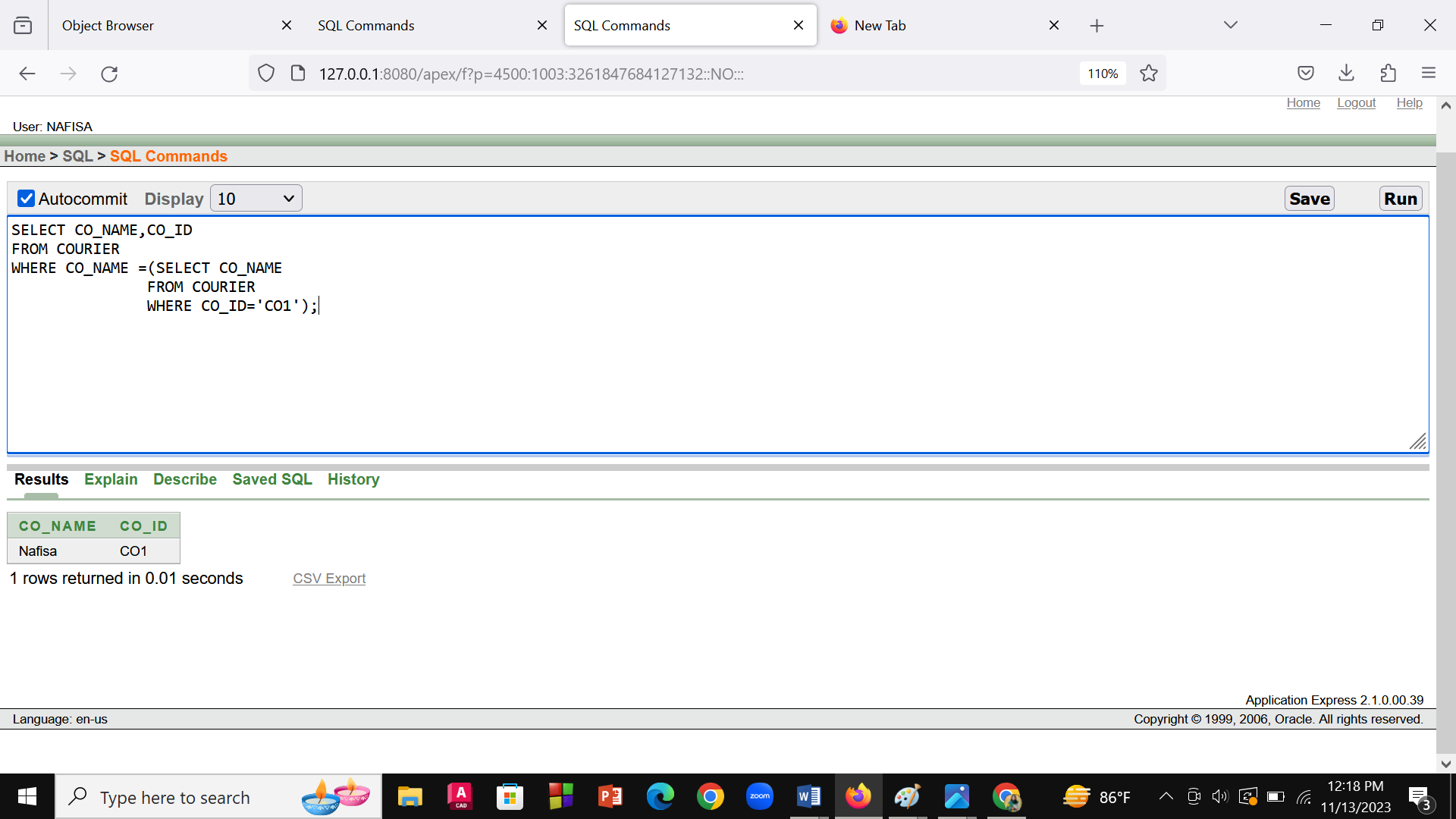
SELECT CO\_NAME,CO\_ID

FROM COURIER

WHERE CO\_NAME =(SELECT CO\_NAME

FROM COURIER

WHERE CO\_ID='CO1');



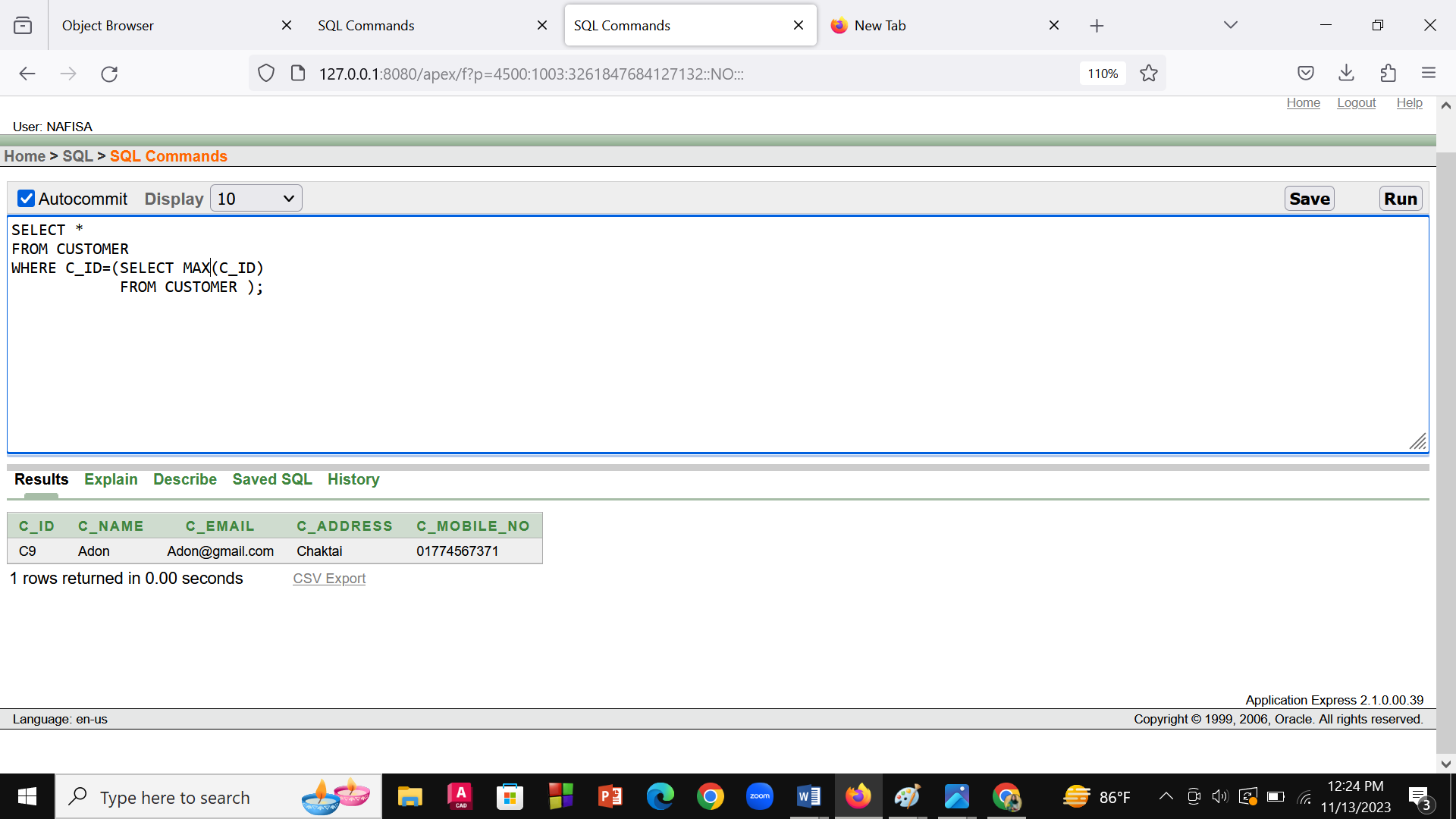
4.Select all the rows from the CUSTOMER table with the maximum id number.

SELECT \*

FROM CUSTOMER

WHERE C\_ID=(SELECT MAX(C\_ID)

FROM CUSTOMER );

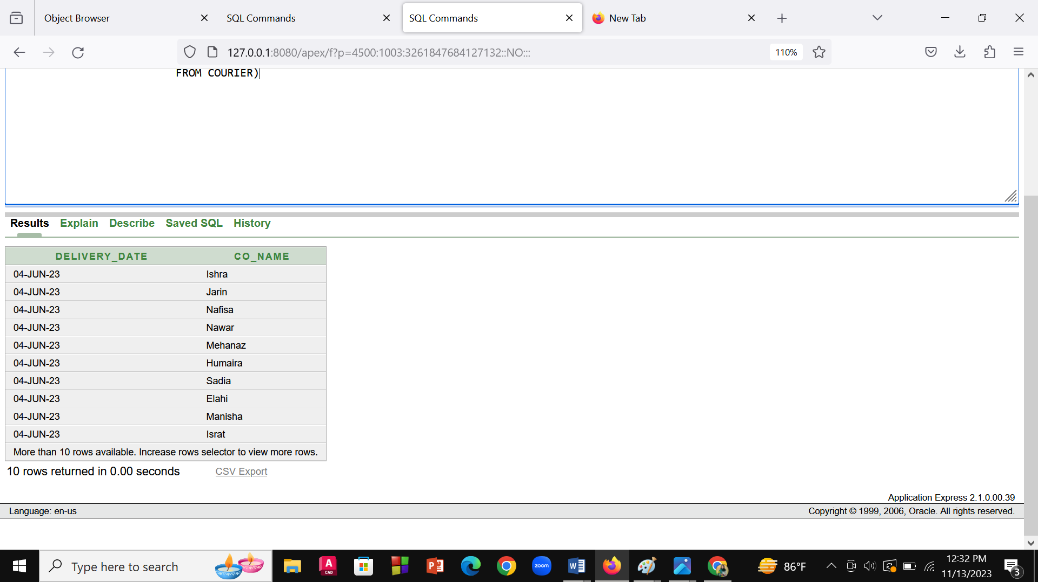


5. Show the delivery date with their courier names.

SELECT DELIVERY\_DATE,CO\_NAME

FROM PARCEL NATURAL JOIN (SELECT \*

FROM COURIER)



**PL/SQL**

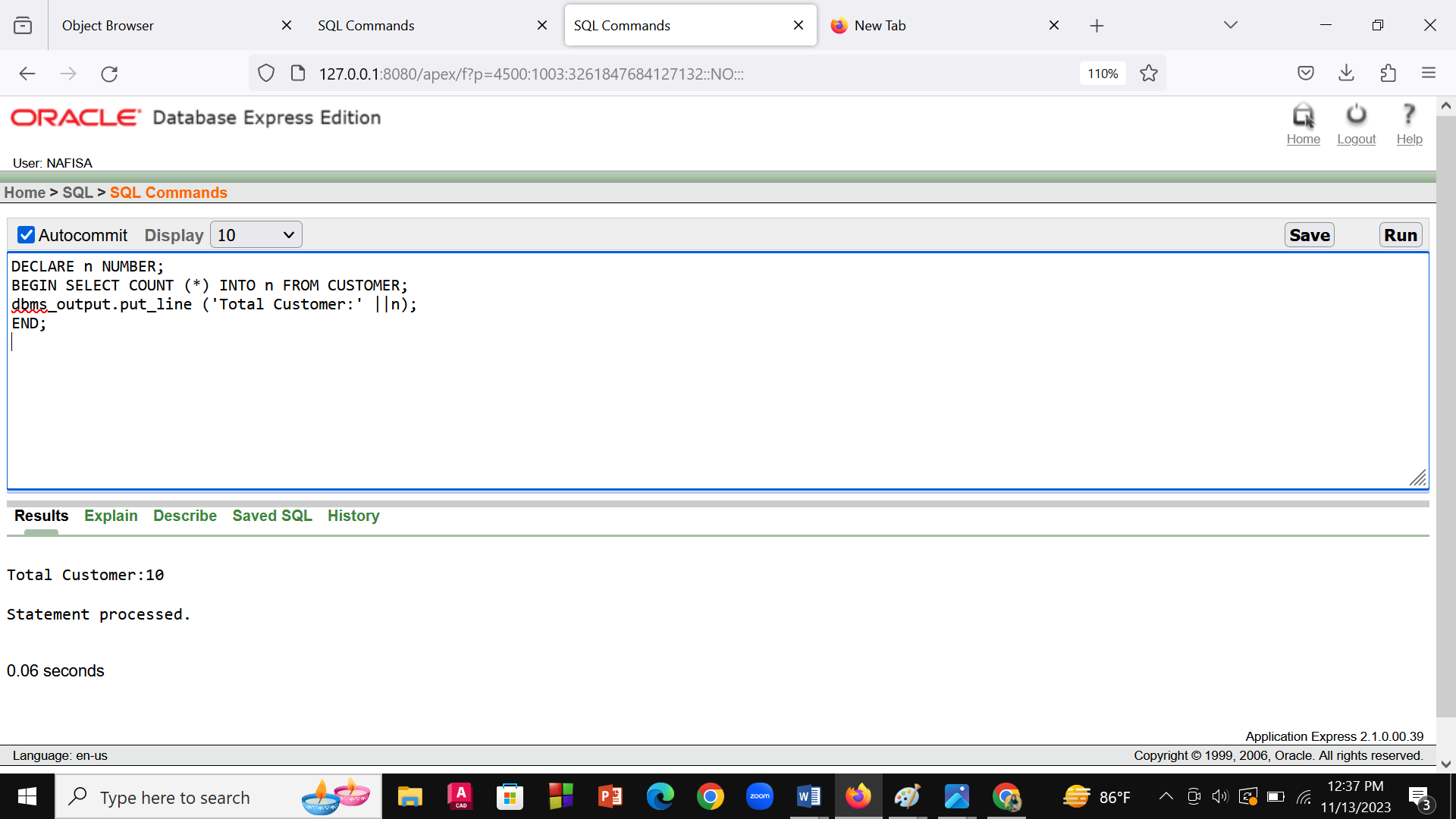
1. FIND the total customer from the customer table using pl/sql

DECLARE n NUMBER;

BEGIN SELECT COUNT (\*) INTO n FROM CUSTOMER;

dbms\_output.put\_line ('Total Customer:' ||n);

END;



2.Show the details whose customer id is’C3’.

DECLARE

A CUSTOMER.C\_ID%TYPE;

B CUSTOMER.C\_NAME%TYPE;

C CUSTOMER.C\_ADDRESS%TYPE;

BEGIN

SELECT C\_ID,C\_NAME,C\_ADDRESS INTO A,B,C

FROM CUSTOMER

WHERE C\_ID='C3';

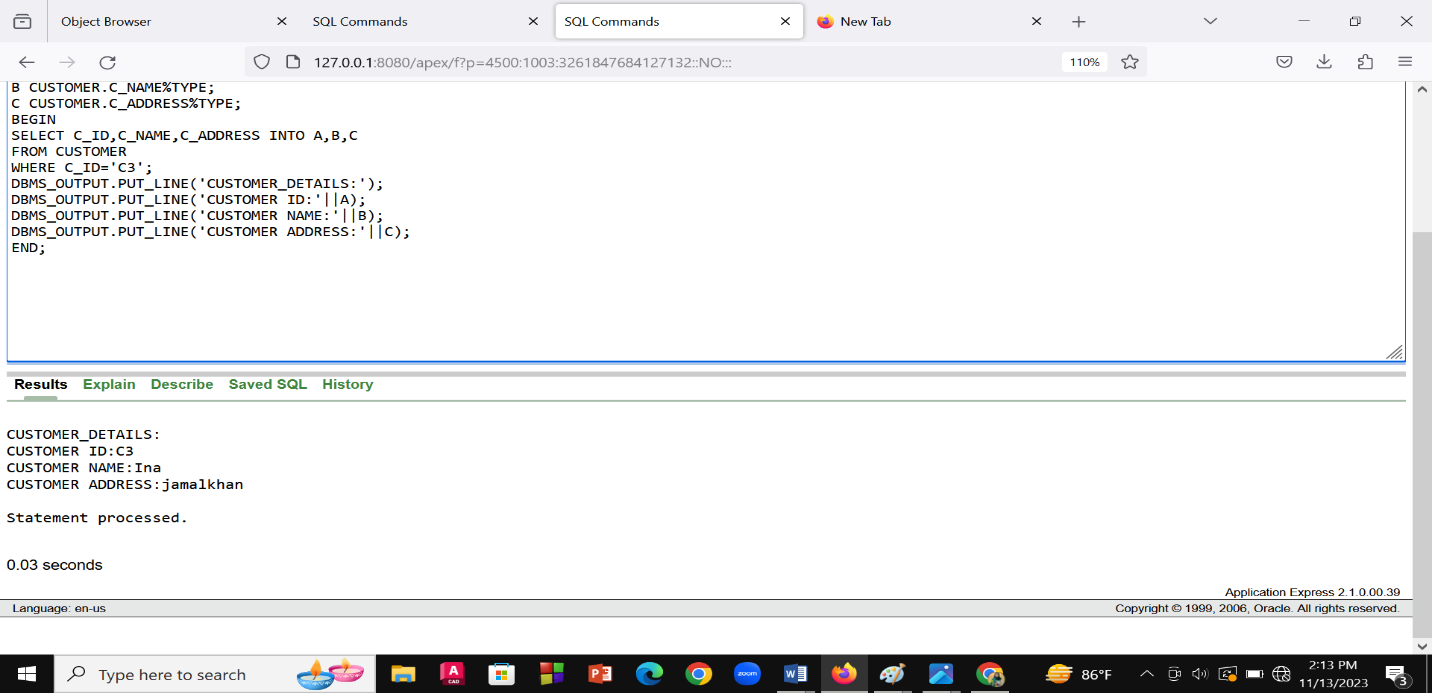
DBMS\_OUTPUT.PUT\_LINE('CUSTOMER\_DETAILS:');

DBMS\_OUTPUT.PUT\_LINE('CUSTOMER ID:'||A);

DBMS\_OUTPUT.PUT\_LINE('CUSTOMER NAME:'||B);

DBMS\_OUTPUT.PUT\_LINE('CUSTOMER ADDRESS:'||C);

END;



3.Show the id info of customer named ‘Jeba’.

DECLARE

A CUSTOMER.C\_ID%TYPE;

B CUSTOMER.C\_ADDRESS%TYPE;

BEGIN

SELECT C\_ID,C\_ADDRESS INTO A,B

FROM CUSTOMER

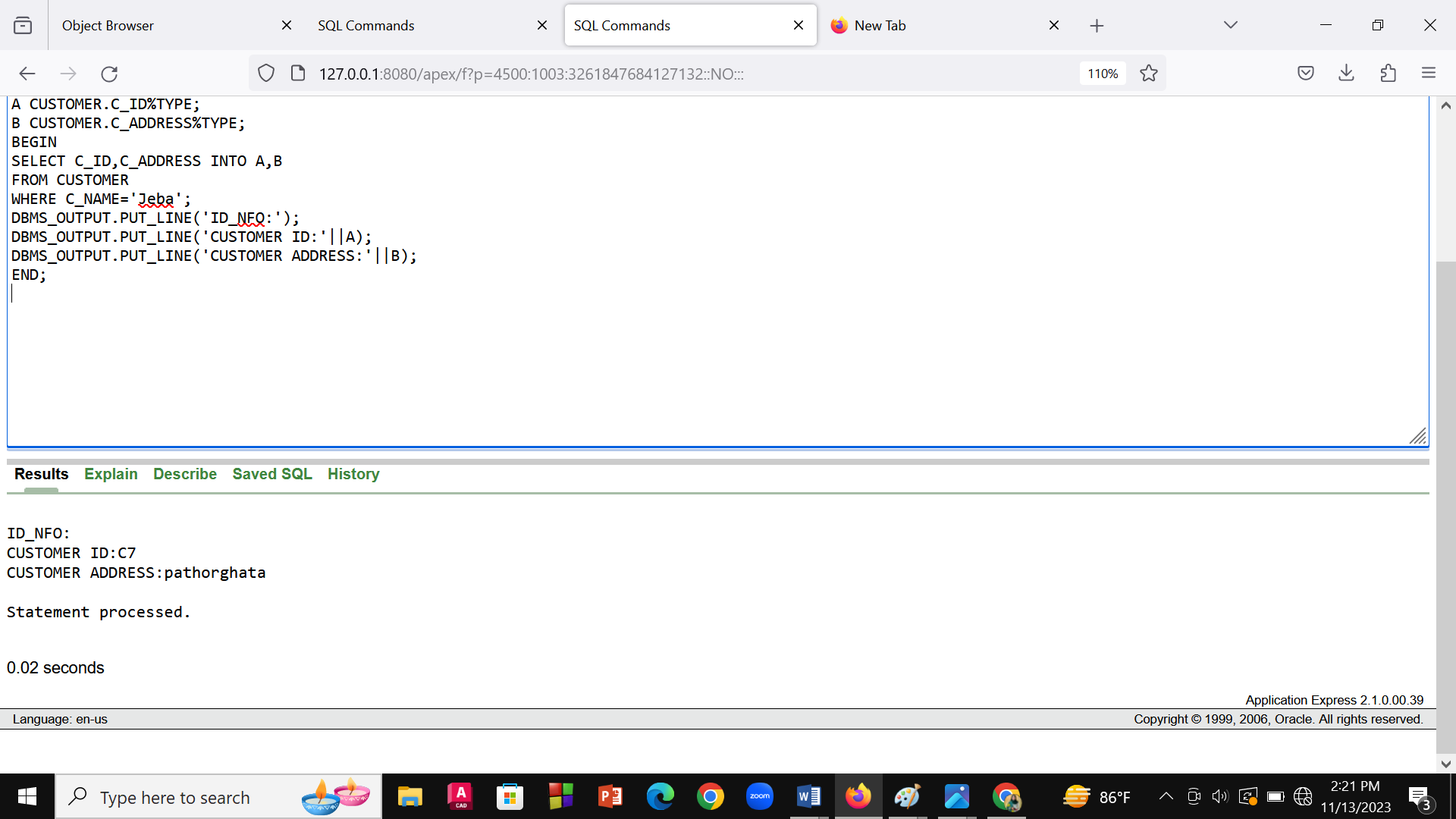
WHERE C\_NAME='Jeba';

DBMS\_OUTPUT.PUT\_LINE('ID\_NFO:');

DBMS\_OUTPUT.PUT\_LINE('CUSTOMER ID:'||A);

DBMS\_OUTPUT.PUT\_LINE('CUSTOMER ADDRESS:'||B);

END;



4.Show all customer names using cursor based record.

DECLARE

CURSOR s\_cur IS

SELECT \*

FROM CUSTOMER;

s\_rec s\_cur%rowtype;

BEGIN

open s\_cur;

LOOP

FETCH s\_cur INTO s\_rec;

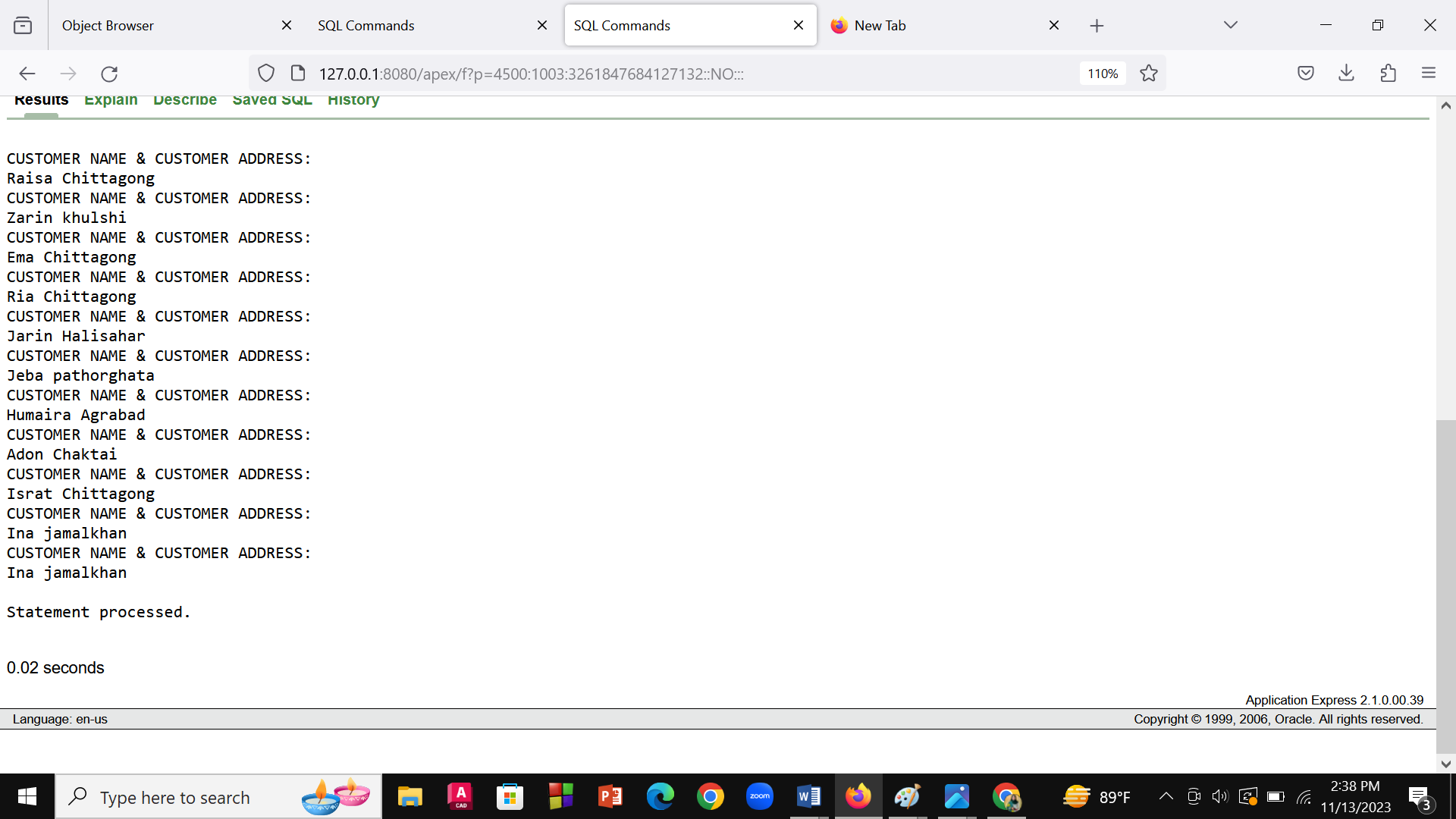
dbms\_output.put\_line('CUSTOMER NAME & CUSTOMER ADDRESS:

'||s\_rec.C\_NAME||' '||s\_rec.C\_ADDRESS);

EXIT WHEN s\_cur%notfound;

END LOOP;

END;



5.Show all admin nameusing cursor based record.

DECLARE

A ADMIN%rowtype;

cursor C IS

SELECT \*

FROM ADMIN;

BEGIN

OPEN C;

dbms\_output.put\_line('ADMIN DETAILS:');

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

LOOP

FETCH C INTO A;

EXIT WHEN C%notfound;

dbms\_output.put\_line('ADMIN ID:'||A.A\_ID);

dbms\_output.put\_line('A\_NAME:'||A.A\_NAME);

dbms\_output.put\_line('ADMIN ADDRESS'||A.ADDRESS);

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

END LOOP;

CLOSE C;

END;

