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**American International University, Bangladesh**

Faculty of Science and Technology

**Introduction to Database**

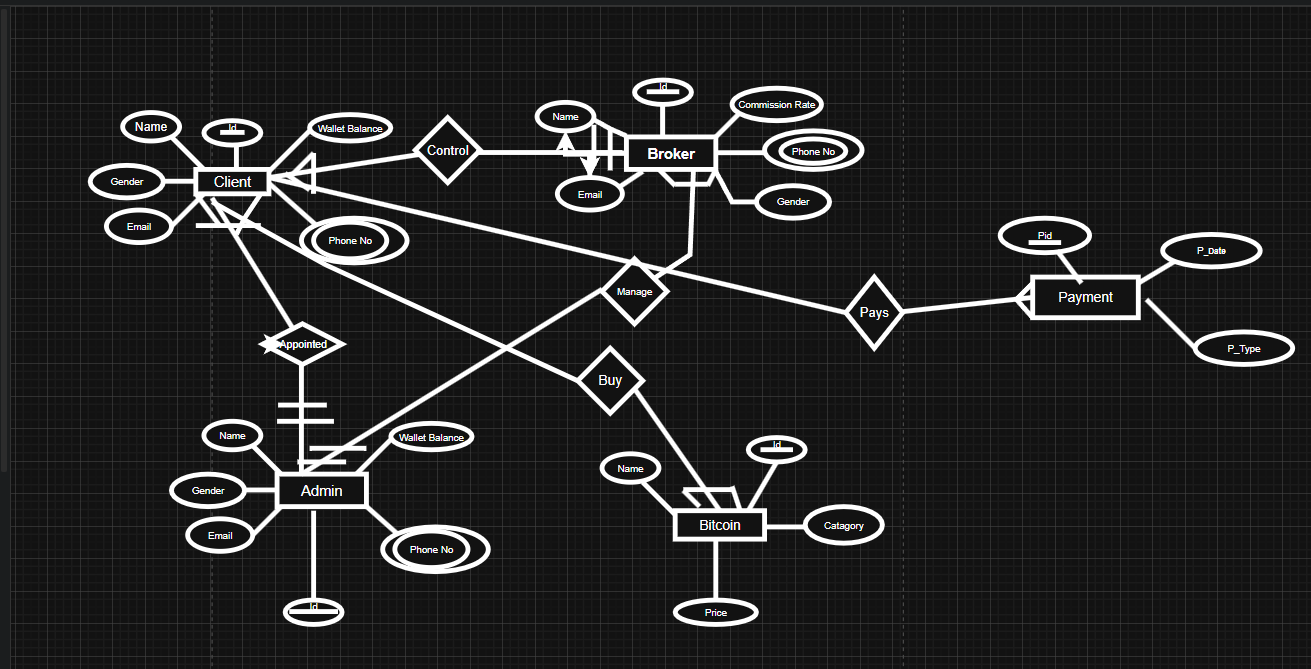
**Project Name:** CRYPTOCURRENCY MANAGEMENT SYSTEM

|  |  |
| --- | --- |
| **Name** | **id** |
| Redip Biswas | 24-56526-1 |

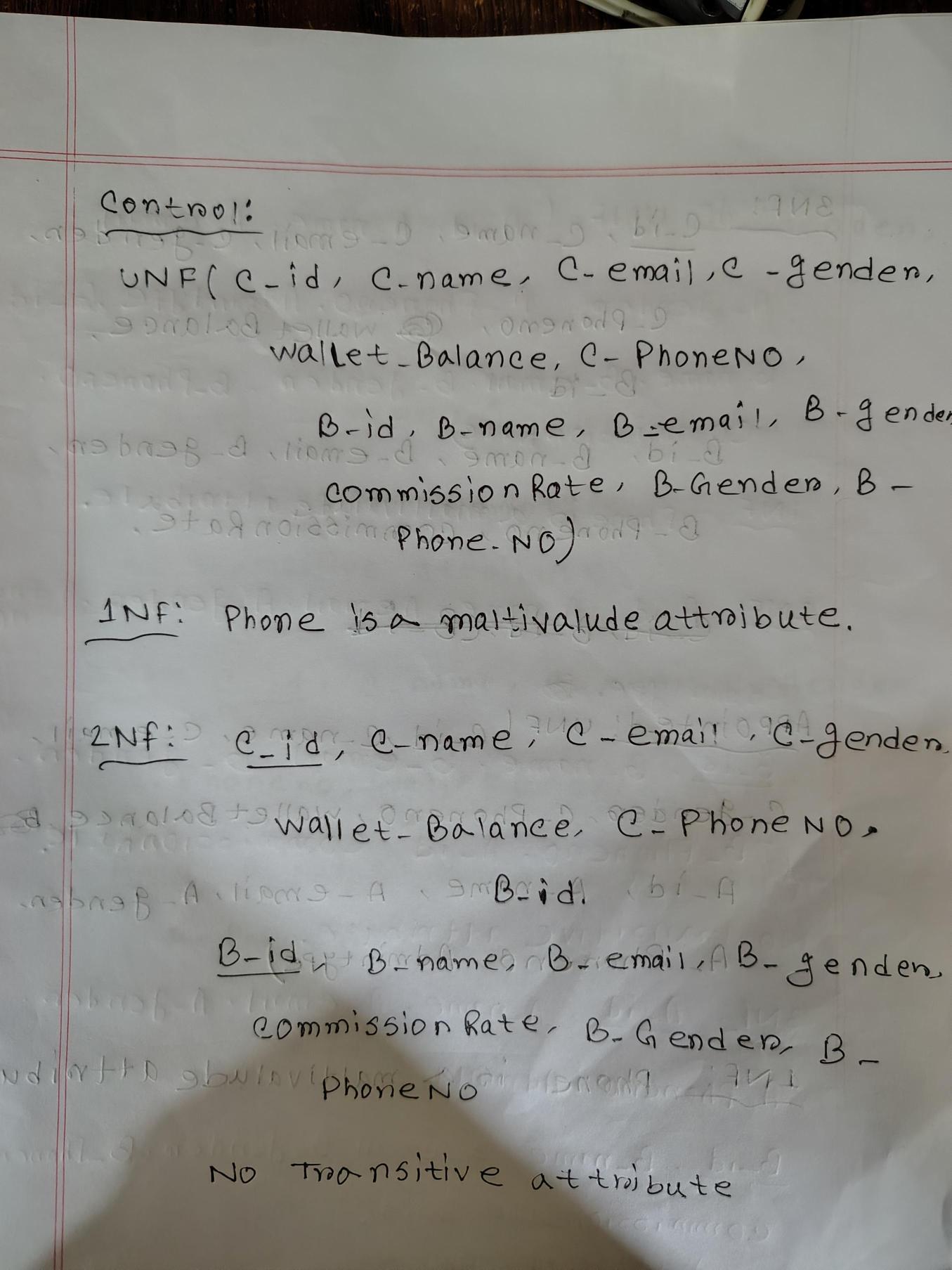
**ER SCENARIO**

The Cryptocurrency Management System involves three main types of users: Admins, Brokers, and Clients. Admins are responsible for managing user accounts, verifying transactions, and ensuring system integrity. Brokers act as intermediaries between clients and the market, assisting in buying and selling cryptocurrencies. Clients can register, deposit funds, buy or sell cryptocurrencies, and monitor their portfolio. Each transaction is recorded with details such as transaction type, amount, date, and involved parties. Cryptocurrencies are maintained with up-to-date information like coin name, symbol, and current price. The system also tracks user balances and provides secure login credentials for all users. This organized structure helps in managing crypto trades efficiently while minimizing fraud and confusion, offering a safe and transparent platform for all participants.

ER Diagram:

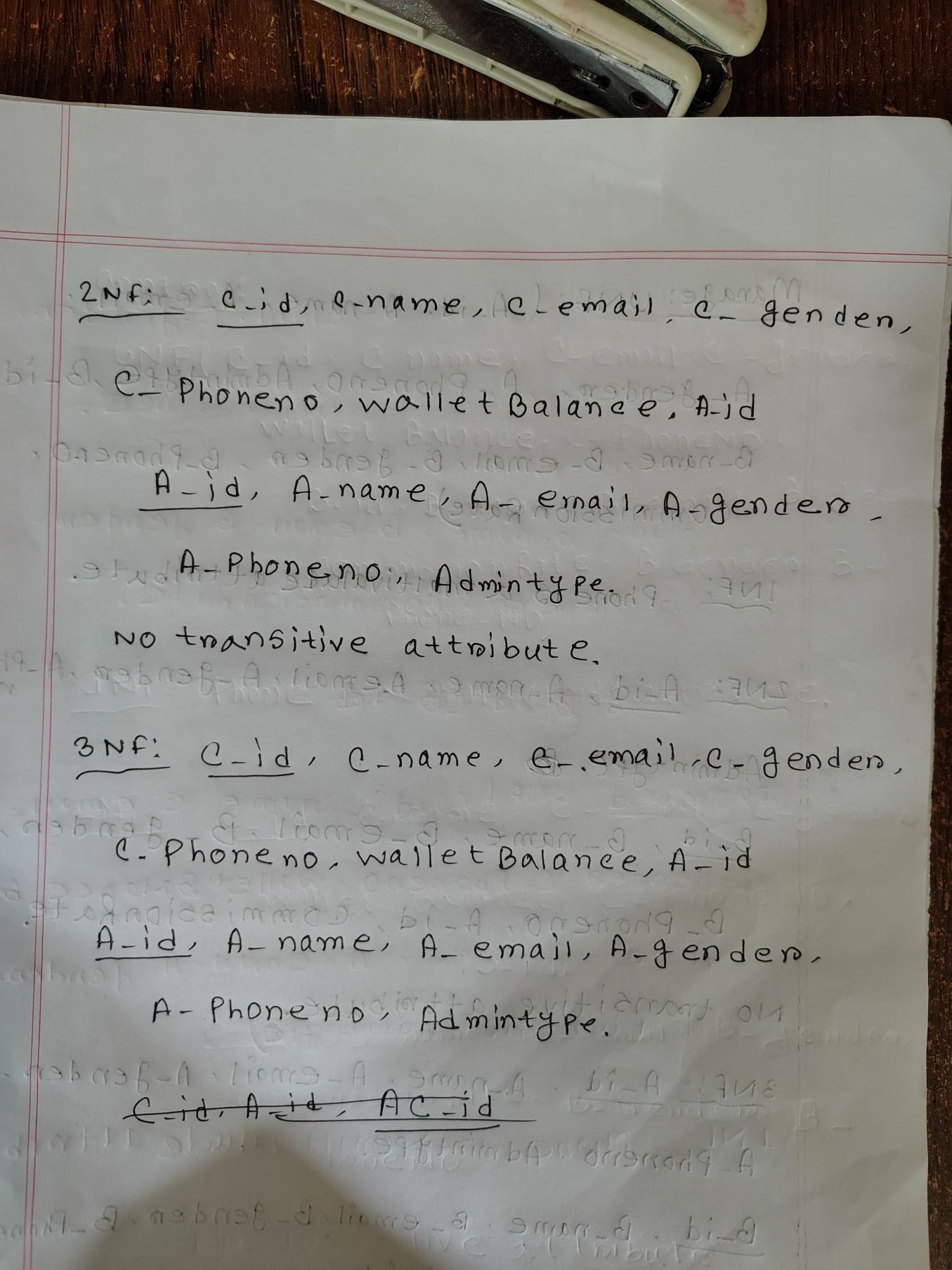


# Normalization

**Normalization:**

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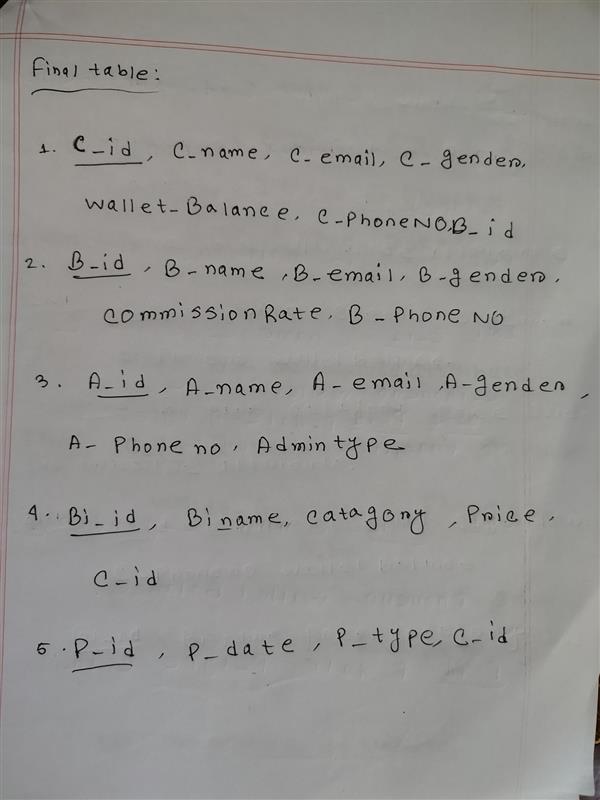
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**Table Creation and Insertion**

1. create table Clients (c\_id number (5) constraint client\_cid\_pk PRIMARY KEY,c\_name varchar2(50),c\_email varchar2(50) ,c\_gender varchar2(50),c\_phoneNo varchar2(50), wallet\_balance number (8,2))

insert into Clients(c\_id,c\_name,c\_gender,c\_email,c\_phoneNo,wallet\_balance) values(102,'Rahul','Male',' rahul@gmail.com','019857447468',5888.98)

insert into Clients(c\_id,c\_name,c\_gender,c\_email,c\_phoneNo,wallet\_balance) values(103,'Piotry','Female',' piotry@gmail.com','01756258987',587456.98)

insert into Clients(c\_id,c\_name,c\_gender,c\_email,c\_phoneNo,wallet\_balance) values(104,'Prottoy','male',' sprottoy@gmail.com','018657995245',587.98)

insert into Clients(c\_id,c\_name,c\_gender,c\_email,c\_phoneNo,wallet\_balance) values(105,'Shad','male',' [shad@gmail.com','01865799794',58796.98](mailto:shad@gmail.com','01865799794',58796.98))

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2. create table Broker (b\_id number (5) constraint client\_bid\_pk PRIMARY KEY,b\_name varchar2(50),b\_email varchar2(50) ,b\_gender varchar2(50),b\_phoneNo varchar2(50), commissionRate number (8,2))

insert into Broker (b\_id,b\_name,b\_email,b\_gender,b\_phoneNo,commissionRate) values (202,'Niddi',' niddi@gmail.com','female','018796542',10.9899)

insert into Broker (b\_id,b\_name,b\_email,b\_gender,b\_phoneNo,commissionRate) values (203,’Roton’,’ roton@gmail.com’,’male’,’018796542544’,5.698)insert into Broker (b\_id,b\_name,b\_email,b\_gender,b\_phoneNo,commissionRate) values (204,'Masud',' mas@gmail.com’,’male’,’01982489654’,7.69741)

insert into Broker (b\_id,b\_name,b\_email,b\_gender,b\_phoneNo,commissionRate) values (205,’Manik’,’ [nik@gmail.com','male','01878963214',10.6971](mailto:nik@gmail.com','male','01878963214',10.6971))

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3. create table Admin (a\_id number (5) constraint client\_aid\_pk PRIMARY KEY,a\_name varchar2(50),a\_email varchar2(50) ,a\_gender varchar2(50),a\_phoneNo varchar2(50), Admin\_Type varchar2(50))

insert into Admin (a\_id,a\_name,a\_email,a\_gender,a\_phoneNo,Admin\_Type) values (500,'Partho', 'partho@gmail.com','male','0178965412','Gold')

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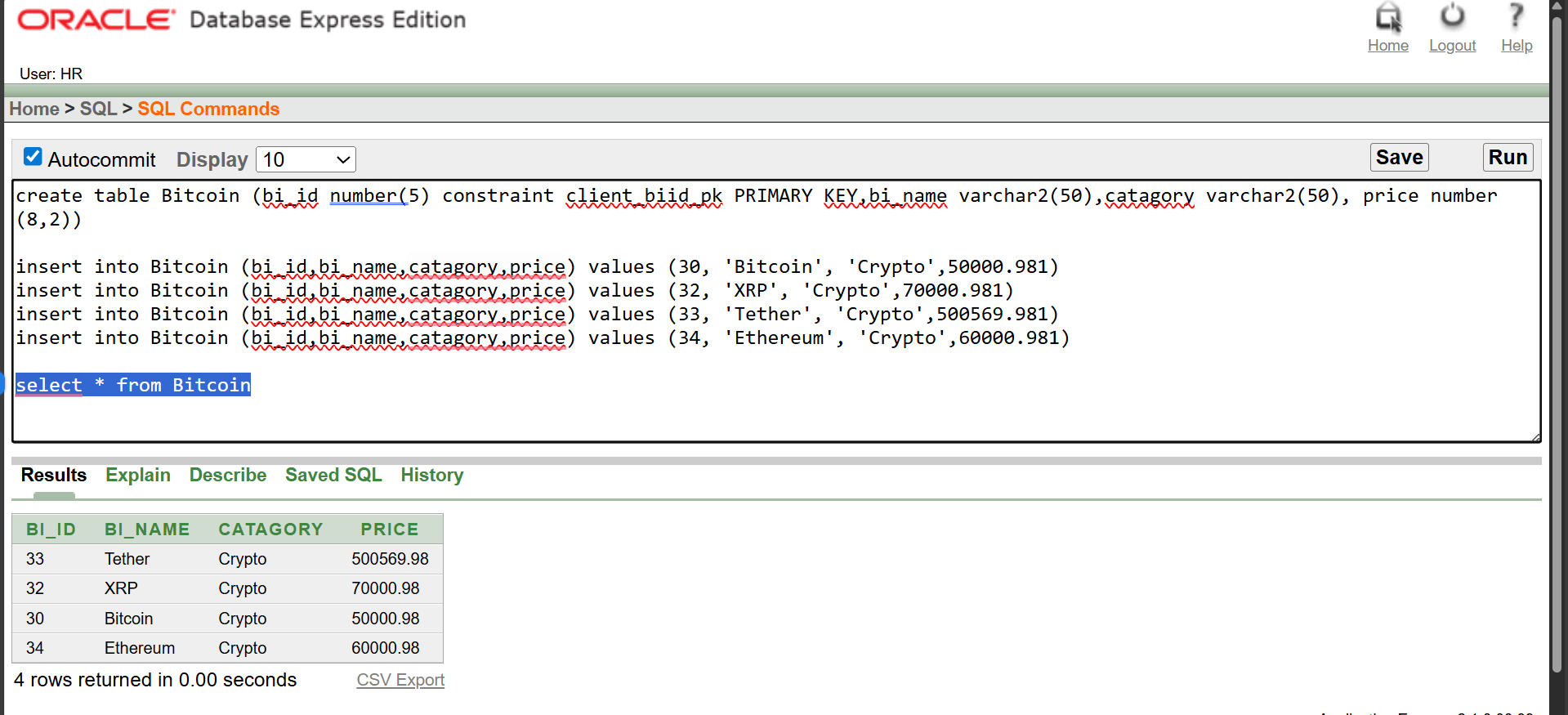
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4. create table Bitcoin (bi\_id number (5) constraint client\_biid\_pk PRIMARY KEY,bi\_name varchar2(50),catagory varchar2(50), price number (8,2))

insert into Bitcoin (bi\_id,bi\_name, category, price) values (30, 'Bitcoin', 'Crypto',50000.981)

insert into Bitcoin (bi\_id,bi\_name, category, price) values (32, 'XRP', 'Crypto',70000.981)

insert into Bitcoin (bi\_id,bi\_name, category, price) values (33, 'Tether', 'Crypto',500569.981)

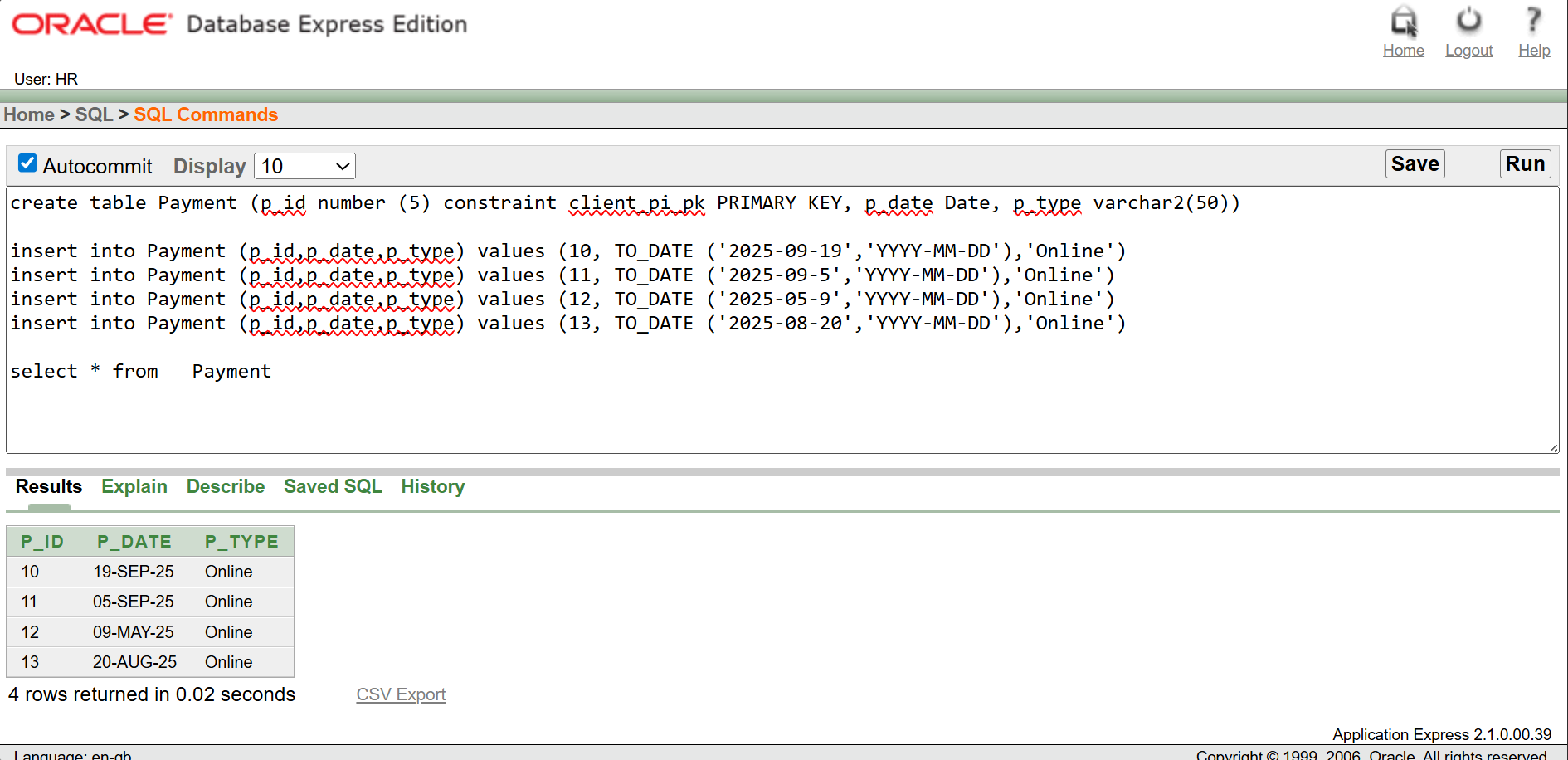
insert into Bitcoin (bi\_id,bi\_name, category, price) values (34, 'Ethereum', 'Crypto',60000.981)

5. create table Payment (p\_id number (5) constraint client\_pi\_pk PRIMARY KEY, p\_date Date, p\_type varchar2(50))

insert into Payment (p\_id,p\_date,p\_type) values (10, TO\_DATE ('2025-09-19','YYYY-MM-DD'),'Online')

insert into Payment (p\_id,p\_date,p\_type) values (11, TO\_DATE ('2025-09-5','YYYY-MM-DD'),'Online')

insert into Payment (p\_id,p\_date,p\_type) values (12, TO\_DATE ('2025-05-9','YYYY-MM-DD'),'Online')

insert into Payment (p\_id,p\_date,p\_type) values (13, TO\_DATE ('2025-08-20','YYYY-MM-DD'),'Online')

**Query**

1. Display the names and wallet balances of all clients whose wallet balance is less than that of the client with c\_id = 103.

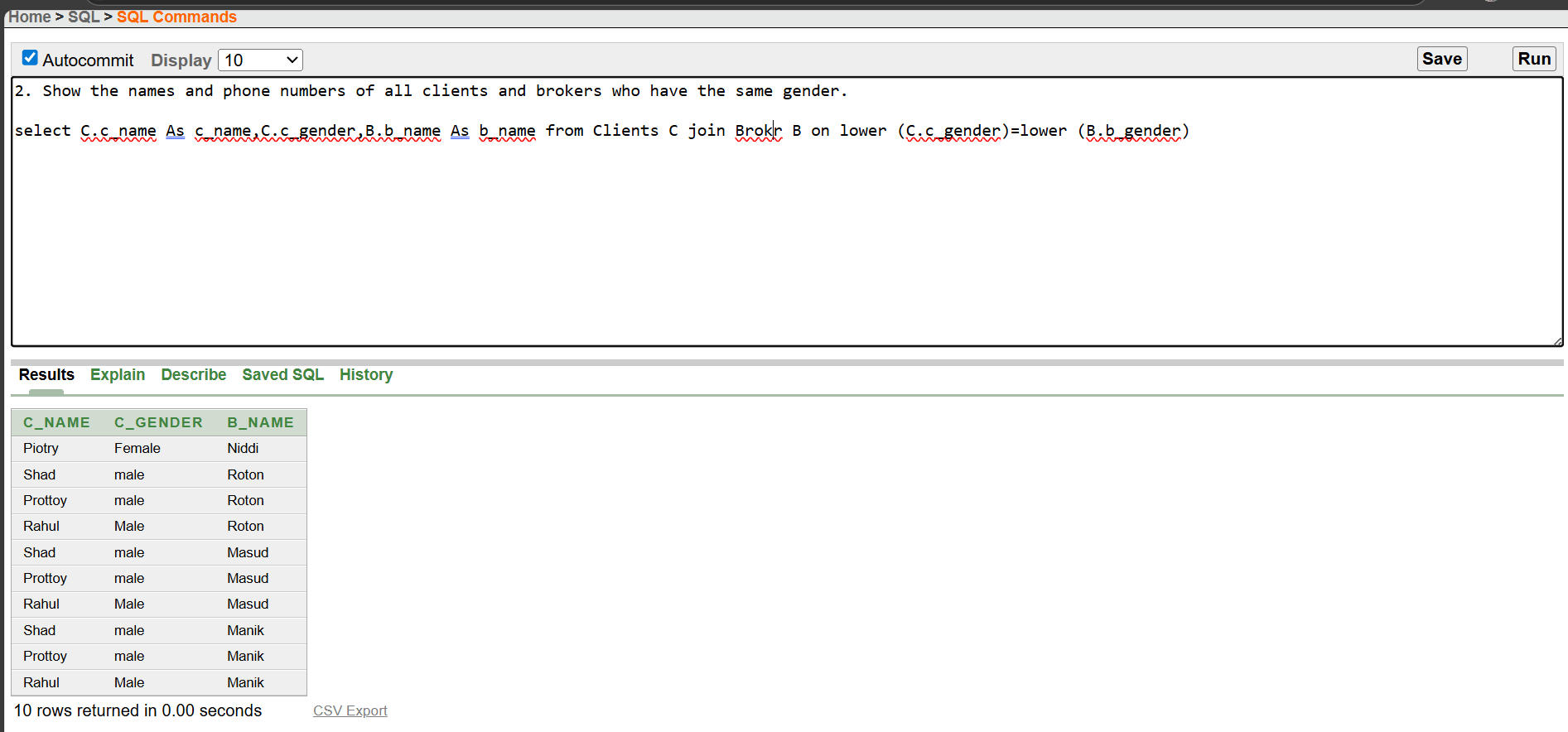
Ans: select c\_name,wallet\_balance from Clients where wallet\_balance < (select wallet\_balance from Clients Where c\_id=103)

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2. Show the names and phone numbers of all clients and brokers who have the same gender.

Ans: select C.c\_name As c\_name,C.c\_gender,B.b\_name As b\_name from Clients C join Brokr B on lower (C.c\_gender)=lower (B.b\_gender)

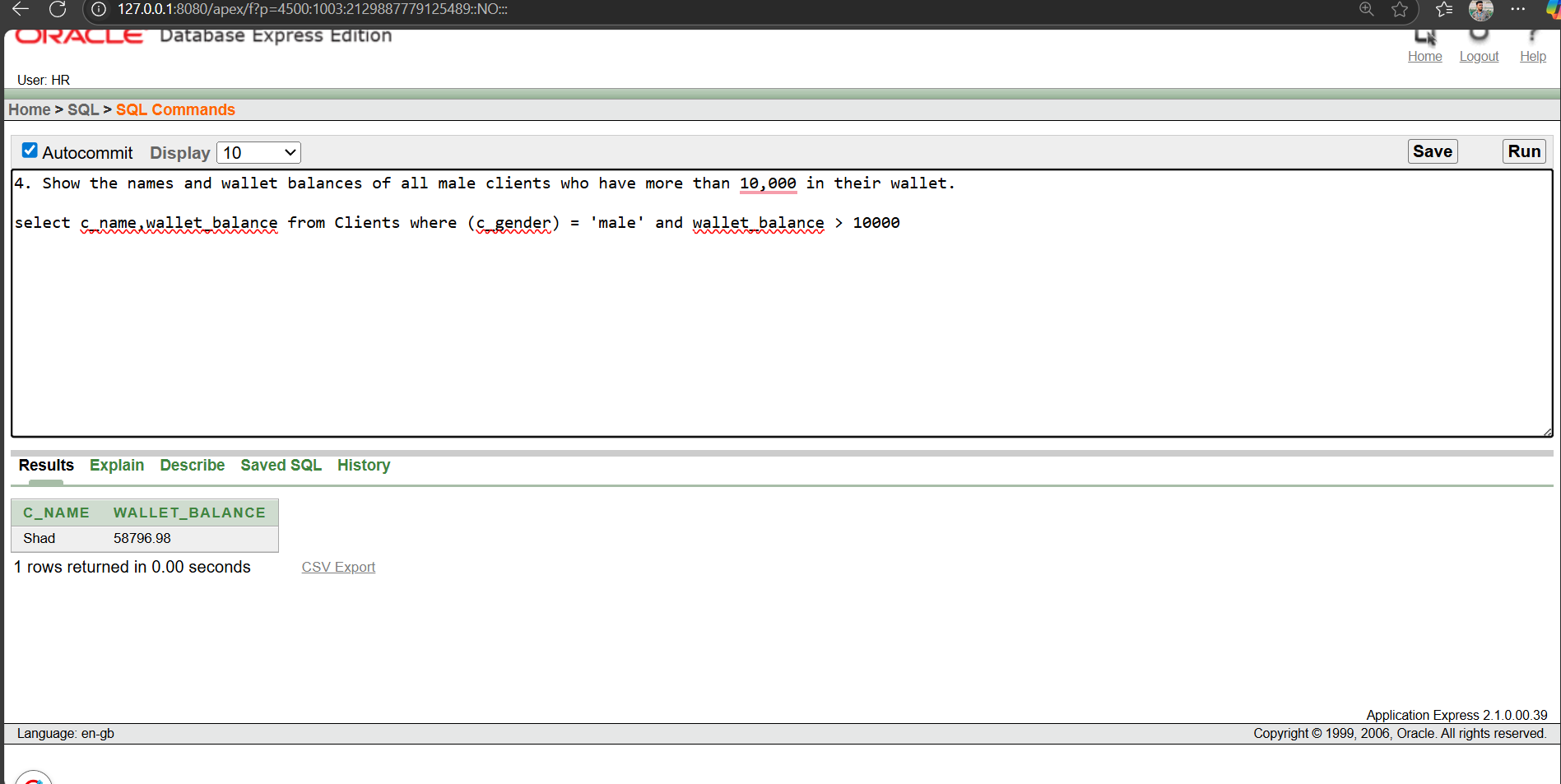


3.Show all bitcoin names whose price is less than any broker commission rate multiplied by 10,000.

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AI-generated content may be incorrect.Ans: select bi\_name,price from Bitcoin where price < (select max(commissionRate)\* 10000 from Broker)

4. Show the names and wallet balances of all male clients who have more than 10,000 in their wallet.

Ans:select c\_name,wallet\_balance from Clients where (c\_gender) ='male' and wallet\_balance > 10000

5. Show broker name and their commission amount calculated as 5% of average wallet balance.

Ans:select b\_name,(0.05\*(select avg(wallet\_balance) from Clients)) AS Commission\_Amount from Broker

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**View**

**Simple View:**

1. create or replace view simple\_client\_view As select c\_id,c\_name,wallet\_balance from Clients

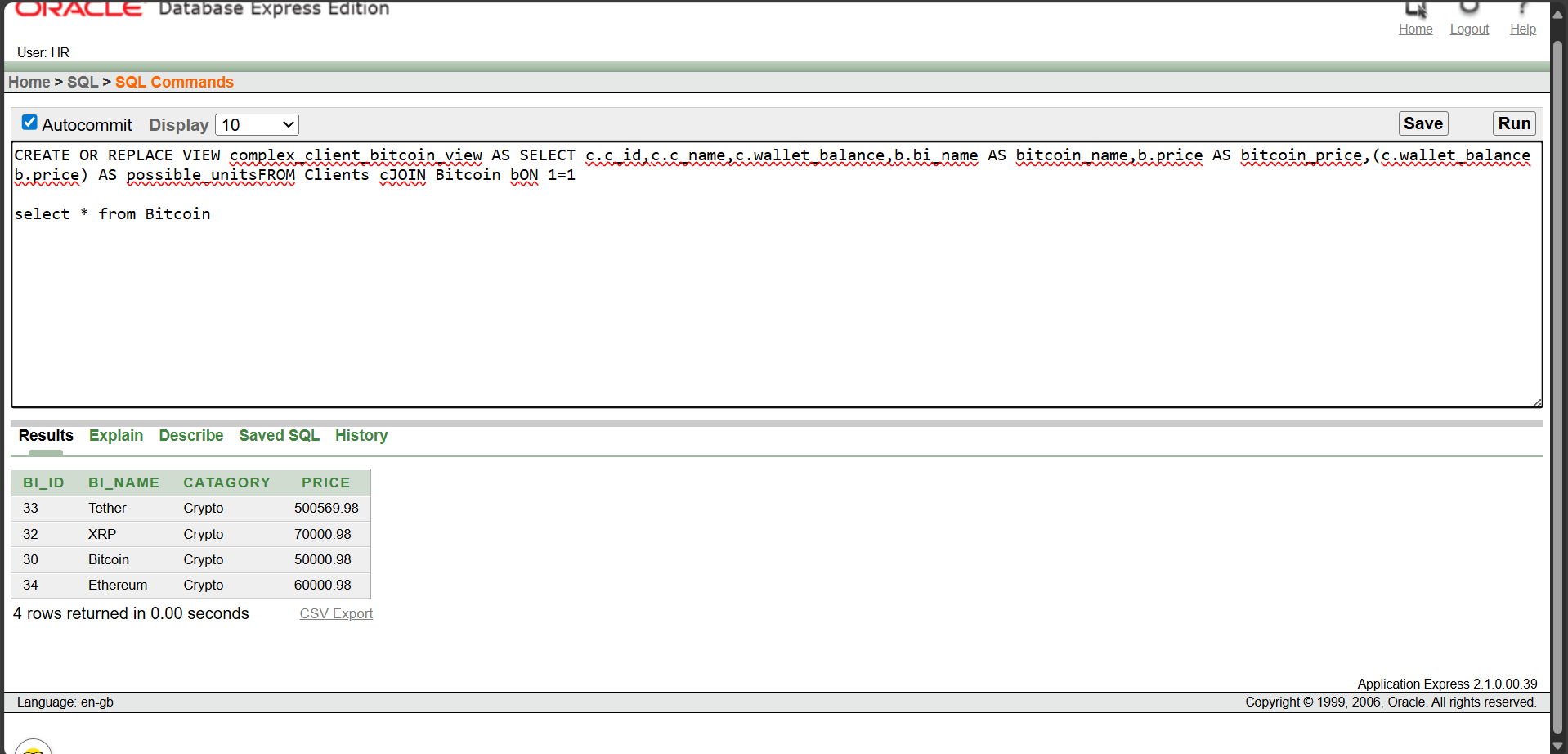
select \* from Clients

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1. **Complex View:**

CREATE OR REPLACE VIEW complex\_client\_bitcoin\_view AS SELECT c.c\_id,c.c\_name,c.wallet\_balance,b.bi\_name AS bitcoin\_name,b.price AS bitcoin\_price,(c.wallet\_balance b.price) AS possible\_unitsFROM Clients cJOIN Bitcoin b ON 1=1

****select \* from Bitcoin