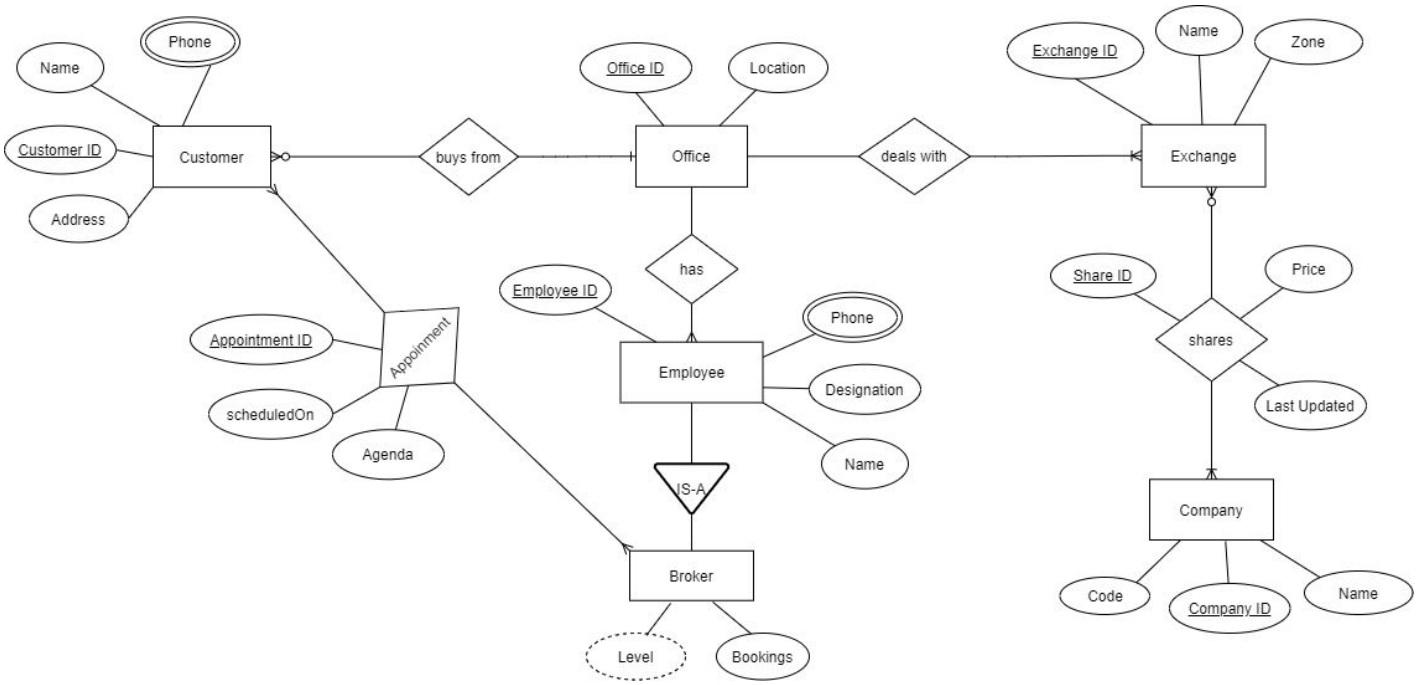
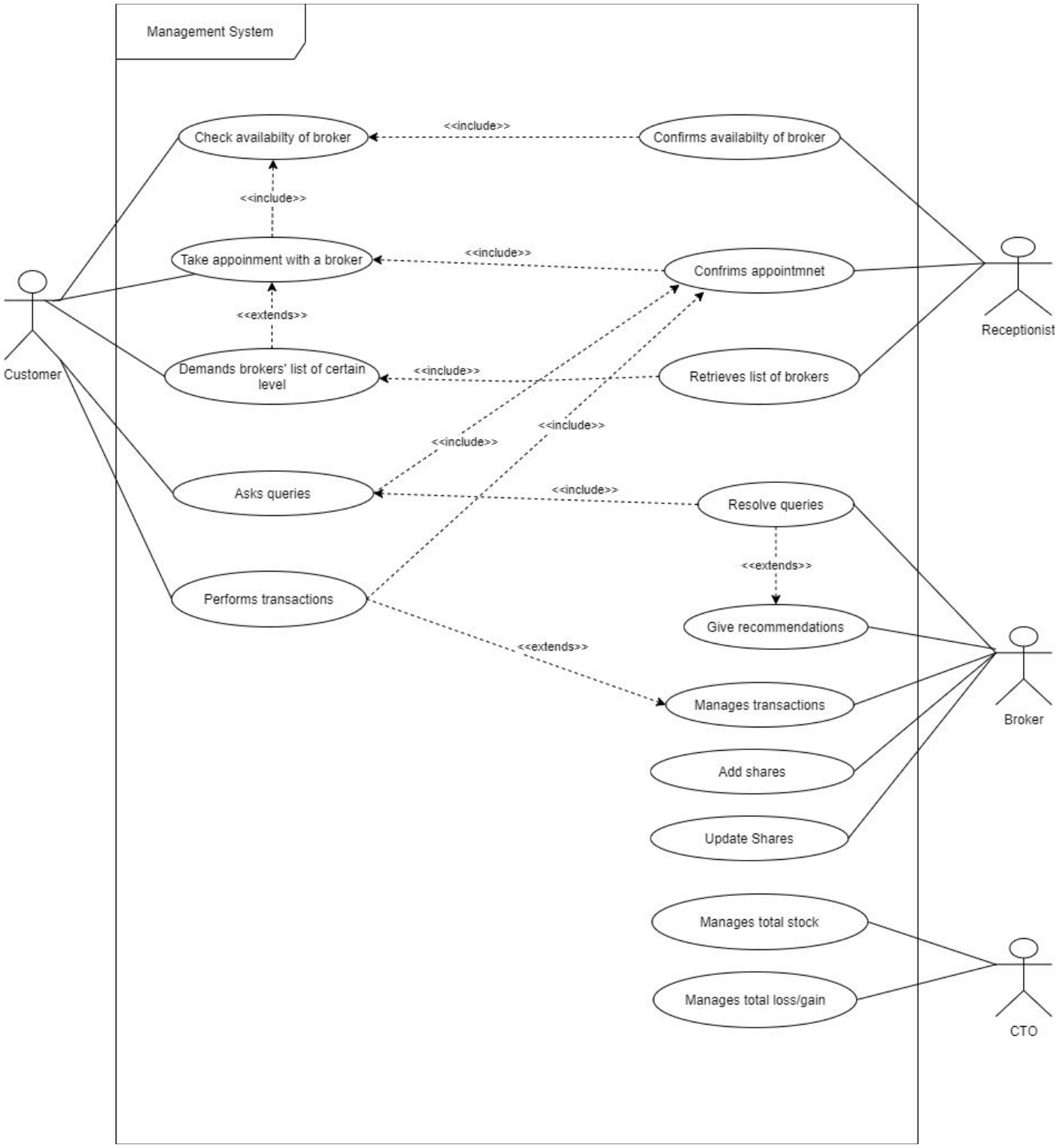
1. ERD


Phone
Name
Customer ID
Address
Customer
buys from
Office ID
Location
Office
deals with
Exchange ID
Name
Zone
Exchange
has
Employee ID
Phone
Employee
Designation
Name
IS-A
Broker
Level
Bookings
Appointment ID
Appointment
scheduledOn
Agenda
Share ID
Price
shares
Last Updated
Company
Code
Company ID
Name

2. USE CASE DIAGRAM



3. NORMALISATION IN 3NF

For a table to be in 3NF, it should have:

a. No multivalued attribute
b. No partial dependency
c. No transitive dependency

1.Table Customer:

No multivalued attributes

Functional dependencies:
CustomerID -> Name, Address, Phone

Candidate Key: CustomerID

No partial dependency
No transitive dependency.

Therefore, customer is in 3NF.

2.Table Office:
No multivalued attributes

Functional dependencies:
OfficeID -> Location

Candidate Key: OfficeID

No partial dependency
No transitive dependency.

Therefore, Office is in 3NF.

3.Table Employee:
No multivalued attributes

Functional dependencies:
EmployeeID ->Phone, Designation, Name

Candidate Key: EmployeeID

No partial dependency
No transitive dependency.

Therefore, Employee is in 3NF.

4.Table Appointment:
No multivalued attributes

Functional dependencies:
AppointmentID -> scheduledOn, Agenda, CustomerID, BrokerID

Candidate Key: AppointmentID

No partial dependency.
No transitive dependency.

Therefore, Appointment is in 3NF.

5.Table Broker:
No multivalued attributes

Functional dependencies:
BrokerID -> level, bookings

Candidate Key: BrokerID

No partial dependency.
No transitive dependency.

Therefore, Broker is in 3NF.

6.Table Share:
No multivalued attributes

Functional dependencies:
shareID -> price, lastUpdated

Candidate Key: shareID

No partial dependency.
No transitive dependency.

Therefore, Share is in 3NF.

7.Table Company:
No multivalued attributes

Functional dependencies:
CompanyID -> Name, Code

Candidate Key: CompanyID

No partial dependency.
No transitive dependency.

Therefore, Company is in 3NF.

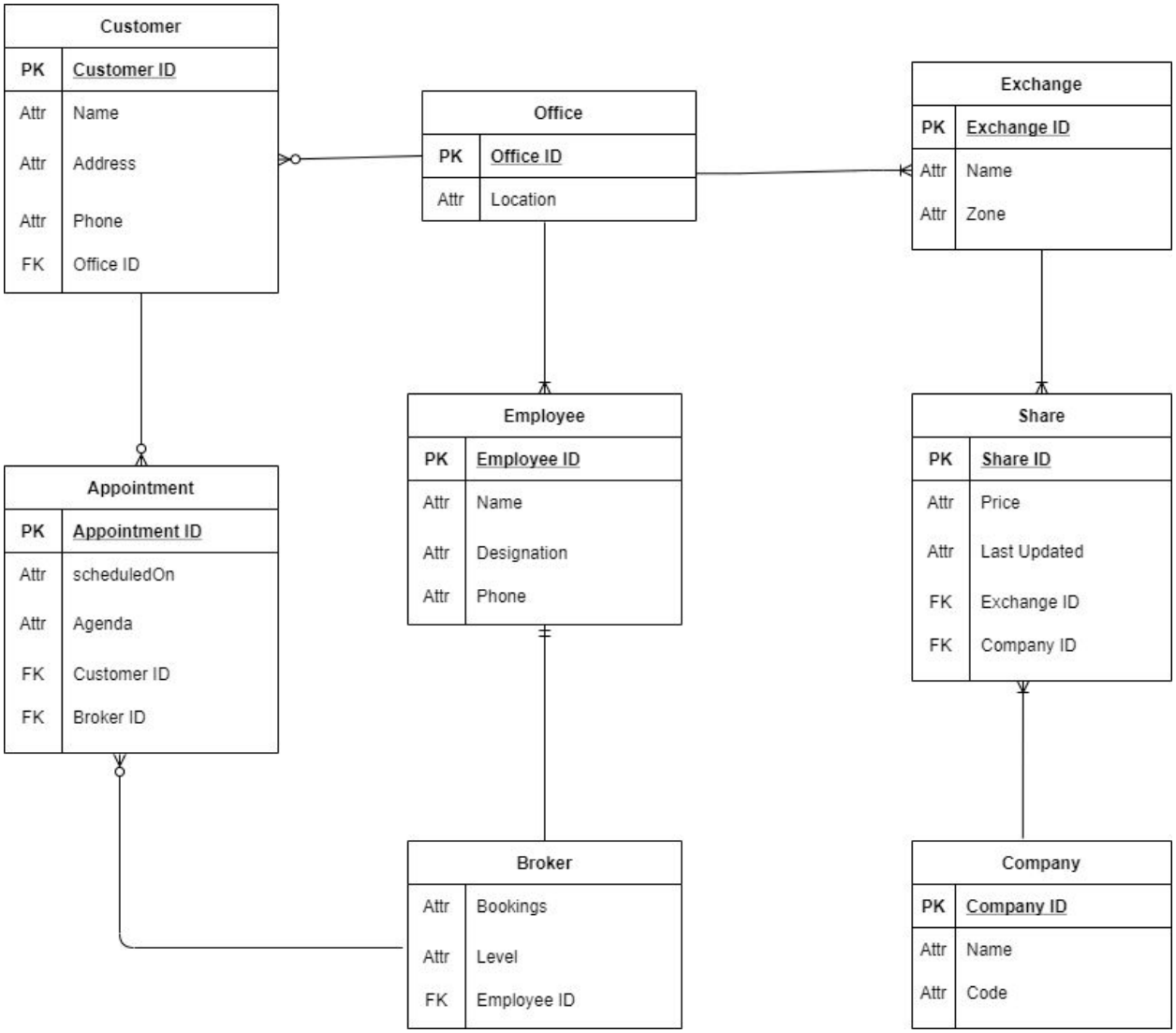
8.Table Exchange:
No multivalued attributes

Functional dependencies:
ExchangeID -> Name, Zone

Candidate Key: ExchangeID

No partial dependency.
No transitive dependency.

Therefore, Exchange is in 3NF.


Customer
PK Customer ID
Attr Name
Attr Address
Attr Phone
FK Office ID
Office
PK Office ID
Attr Location
Exchange
PK Exchange ID
Attr Name
Attr Zone
Employee
PK Employee ID
Attr Name
Attr Designation
Attr Phone
Share
PK Share ID
Attr Price
Attr Last Updated
FK Exchange ID
FK Company ID
Appointment
PK Appointment ID
Attr scheduledOn
Attr Agenda
FK Customer ID
FK Broker ID
Broker
Attr Bookings
Attr Level
FK Employee ID
Company
PK Company ID
Attr Name
Attr Code

4. CREATE TABLE COMMANDS

Table OFFICE

```
CREATE TABLE OFFICE(
     office_id INT AUTO_INCREMENT PRIMARY KEY,
     location VARCHAR(20) NOT NULL
     );
```

```
MariaDB [buyme]> CREATE TABLE OFFICE(
    -> office_id INT AUTO_INCREMENT PRIMARY KEY,
    -> location VARCHAR(20) NOT NULL
    -> );
Query OK, 0 rows affected (0.39 sec)
```

Table CUSTOMER

```
CREATE TABLE CUSTOMER(
    customer_id INT AUTO_INCREMENT PRIMARY KEY,
    name VARCHAR(20) NOT NULL,
    address VARCHAR(50),
    office_id INT,
    FOREIGN KEY(office_id) REFERENCES office(office_id)
    );
```

```
MariaDB [buyme]> CREATE TABLE CUSTOMER(
    -> customer_id INT AUTO_INCREMENT PRIMARY KEY,
    -> name VARCHAR(20) NOT NULL,
    -> address VARCHAR(50),
    -> office_id INT,
    -> FOREIGN KEY(office_id) REFERENCES office(office_id)
    -> );
Query OK, 0 rows affected (0.26 sec)
```

Table EXCHANGE

```
CREATE TABLE EXCHANGE(
     exchange_id INT AUTO_INCREMENT PRIMARY KEY,
     name VARCHAR(40) NOT NULL,
     zone VARCHAR(10),
     office_id INT NOT NULL,
     FOREIGN KEY(office_id) REFERENCES office(office_id)
     );
```

```
MariaDB [buyme]> CREATE TABLE EXCHANGE(
    -> exchange_id INT AUTO_INCREMENT PRIMARY KEY,
    -> name VARCHAR(40) NOT NULL,
    -> zone VARCHAR(10),
    -> office_id INT NOT NULL,
    -> FOREIGN KEY(office_id) REFERENCES office(office_id)
    -> );
Query OK, 0 rows affected (0.49 sec)
```

Table EMPLOYEE

```
CREATE TABLE employee(
    -> employee_id INT AUTO_INCREMENT PRIMARY KEY,
    -> name VARCHAR(30) NOT NULL,
    -> designation VARCHAR(20),
    -> phone VARCHAR(20),
    -> office_id INT,
    -> FOREIGN KEY(office_id) REFERENCES office(office_id)
    -> );
```

```
MariaDB [buyme]> CREATE TABLE employee(
    -> employee_id INT AUTO_INCREMENT PRIMARY KEY,
    -> name VARCHAR(30) NOT NULL,
    -> designation VARCHAR(20),
    -> phone VARCHAR(20),
    -> office_id INT,
    -> FOREIGN KEY(office_id) REFERENCES office(office_id)
    -> );
Query OK, 0 rows affected (0.22 sec)
```

Table COMPANY

```
CREATE TABLE company(
     company_id INT AUTO_INCREMENT PRIMARY KEY,
     name VARCHAR(20) NOT NULL,
     code VARCHAR(8)
     );
```

```
MariaDB [buyme]> CREATE TABLE company(
    -> company_id INT AUTO_INCREMENT PRIMARY KEY,
    -> name VARCHAR(20) NOT NULL,
    -> code VARCHAR(8)
    -> );
Query OK, 0 rows affected (0.21 sec)
```

Table BROKER

```
CREATE TABLE broker(
     bookings INT,
     level VARCHAR(8)
     employee_id INT,
     FOREIGN KEY(employee_id) REFERENCES employee(employee_id)
     );
```

```
MariaDB [buyme]> CREATE TABLE broker(
    -> employee_id INT,
    -> bookings INT,
    -> level VARCHAR(8),
    -> FOREIGN KEY(employee_id) REFERENCES employee(employee_id)
    -> );
Query OK, 0 rows affected (1.16 sec)
```

Table SHARE

```
CREATE TABLE share(
    share_id INT AUTO_INCREMENT PRIMARY KEY,
    price INT NOT NULL,
    last_updated TIMESTAMP NOT NULL,
    company_id INT,
    exchange_id INT,
    FOREIGN KEY(company_id) REFERENCES company(company_id),
    FOREIGN KEY(exchange_id) REFERENCES exchange(exchange_id)
    );
```

```
MariaDB [buyme]> CREATE TABLE share(
    -> share_id INT AUTO_INCREMENT PRIMARY KEY,
    -> price INT NOT NULL,
    -> last_updated DATETIME NOT NULL,
    -> company_id INT,
    -> exchange_id INT,
    -> FOREIGN KEY(company_id) REFERENCES company(company_id),
    -> FOREIGN KEY(exchange_id) REFERENCES exchange(exchange_id)
    -> );
Query OK, 0 rows affected (0.28 sec)
```

Table APPOINTMENT

```
CREATE TABLE appointment(
    appointment_id INT AUTO_INCREMENT PRIMARY KEY,
    scheduled_on TIMESTAMP NOT NULL,
    agenda VARCHAR(30),
    customer_id INT,
    broker_id INT,
    FOREIGN KEY(customer_id) REFERENCES customer(customer_id),
    FOREIGN KEY(broker_id) REFERENCES broker(employee_id)
    );
```

```
CREATE TABLE appointment(
    -> appointment_id INT AUTO_INCREMENT PRIMARY KEY,
    -> scheduled_on DATETIME NOT NULL,
    -> agenda VARCHAR(30),
    -> customer_id INT,
    -> broker_id INT,
    -> FOREIGN KEY(customer_id) REFERENCES customer(customer_id),
    -> FOREIGN KEY(broker_id) REFERENCES broker(employee_id)
    -> );
Query OK, 0 rows affected (0.23 sec)
```

5. INSERT INTO TABLE and SELECT * Commands

Table OFFICE

```
INSERT INTO OFFICE(location)
    -> VALUES('London'),('Washington'),('Tokyo');
```

```
MariaDB [buyme]> INSERT INTO OFFICE(location)
    -> VALUES('London'),('Washington'),('Tokyo');
Query OK, 3 rows affected (0.20 sec)
Records: 3  Duplicates: 0  Warnings: 0
```

Table EXCHANGE

```
INSERT INTO exchange(name,zone,office_id)
    -> VALUES('London Stock Exchange','Europe',1),
    -> ('New York Stock Exchange','USA',2),
    -> ('Nasdaq Stock Exchange','USA',2),
    -> ('Tokyo Stock Exchange','Asia',3),
    -> ('Sanghai Stock Exchange','Asia',3);
```

```
MariaDB [buyme]> INSERT INTO exchange(name,zone,office_id)
    -> VALUES('London Stock Exchange','Europe',1),
    -> ('New York Stock Exchange','USA',2),
    -> ('Nasdaq Stock Exchange','USA',2),
    -> ('Tokyo Stock Exchange','Asia',3),
    -> ('Sanghai Stock Exchange','Asia',3);
Query OK, 5 rows affected (0.14 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Table CUSTOMER

```
INSERT INTO CUSTOMER(name,address,office_id)
     VALUES('white','Paris',2),
     ('walter','london',1),
     ('smith','texas',3),
     ('hall','arizona',2),
     ('tony','new york',1);
INSERT INTO CUSTOMER(name,address,office_id)
     VALUES('jones','france',2),
     ('bill','berlin',2),
     ('jim','patna',3),
     ('tim','harvard',1),
     ('henry','tokyo',3);
```

```
MariaDB [buyme]> INSERT INTO CUSTOMER(name,address,office_id)
    -> VALUES('white','Paris',2),
    -> ('walter','london',1),
    -> ('smith','texas',3),
    -> ('hall','arizona',2),
    -> ('tony','new york',1);
Query OK, 5 rows affected (0.08 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
MariaDB [buyme]> INSERT INTO CUSTOMER(name,address,office_id)
    -> VALUES('jones','france',2),
    -> ('bill','berlin',2),
    -> ('jim','patna',3),
    -> ('tim','harvard',1),
    -> ('henry','tokyo',3);
Query OK, 5 rows affected (0.09 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

Table COMPANY

```
INSERT INTO company(name,code)
     VALUES('Starbucks Corporation','SBUX'),
     ('NXP Semiconductors','NXPI'),
     ('Facebook','FB'),
     ('Apple','AAPL'),
     ('Stitch Fix','SFIX')
     ;
INSERT INTO company(name,code)
     VALUES
     ('Johnson & Jhonson','JNJ'),
     ('Berkshire Hathaway','BRK'),
     ('HSBC','HSBC'),
     ('Unilever','UL'),
     ('Total SA','ToT'),
     ('SAP SE','SAP'),
     ('BP PLC','BP'),
     ('Vodafone','VoD'),
     ('AliBaba','BABA');
```

```
MariaDB [buyme]> INSERT INTO company(name,code)
    -> VALUES('Starbucks Corporation','SBUX'),
    -> ('NXP Semiconductors','NXPI'),
    -> ('Facebook','FB'),
    -> ('Apple','AAPL'),
    -> ('Stitch Fix','SFIX')
    -> ;
Query OK, 5 rows affected, 1 warning (0.09 sec)
Records: 5  Duplicates: 0  Warnings: 1

MariaDB [buyme]> INSERT INTO company(name,code)
    -> VALUES
    -> ('Johnson & Jhonson','JNJ'),
    -> ('Berkshire Hathaway','BRK'),
    -> ('HSBC','HSBC'),
    -> ('Unilever','UL'),
    -> ('Total SA','ToT'),
    -> ('SAP SE','SAP'),
    -> ('BP PLC','BP'),
    -> ('Vodafone','VoD'),
    ->
    -> ('AliBaba','BABA')
    -> ;
Query OK, 9 rows affected (0.08 sec)
Records: 9  Duplicates: 0  Warnings: 0
```

Table EMPLOYEE

```
INSERT INTO EMPLOYEE(name,designation,phone,office_id)
     VALUES('jones','broker',97978988,1),
     ('joe','broker',7678989,2),
     ('Heisenberg','broker',7679789,2),
     ('peter','broker','789788',1),
     ('douglas','broker','76878790989',3),
     ('donald','broker',7867866,3);
INSERT INTO EMPLOYEE(name,designation,phone,office_id)
    -> VALUES('lily','receptionist',87678978,1),
    -> ('pretty','receptionist',7687879,2),
    -> ('kelly','receptionist',98787987,3),
    -> ('Bruce','security guard',8978979,1);
```

```
MariaDB [buyme]> INSERT INTO EMPLOYEE(name,designation,phone,office_id)
    -> VALUES('jones','broker',97978988,1),
    -> ('joe','broker',7678989,2),
    -> ('heisenburg','broker',7679789,2),
    -> ('peter','broker','789788',1),
    -> ('douglas','broker','76878790989',3),
    -> ('donald','broker',7867866,3);
Query OK, 6 rows affected (0.19 sec)
Records: 6  Duplicates: 0  Warnings: 0

MariaDB [buyme]> INSERT INTO EMPLOYEE(name,designation,phone,office_id)
    -> VALUES('lily','receptionist',87678978,1),
    -> ('pretty','receptionist',7687879,2),
    -> ('kelly','receptionist',98787987,3),
    -> ('Bruce','security guard',8978979,1);
Query OK, 4 rows affected (0.09 sec)
Records: 4  Duplicates: 0  Warnings: 0
```

Table BROKER

```
INSERT INTO BROKER(bookings,level,employee_id)
    VALUES(16,'GOLD',1),
    (14,'SILVER',2),
    (9,'BRONZE',3),
    (18,'GOLD',4),
    (11,'SILVER',5),
    (5,'BRONZE',6);
```

```
MariaDB [buyme]> INSERT INTO BROKER(bookings,level,employee_id)
    -> VALUES(16,'GOLD',1),
    -> (14,'SILVER',2),
    -> (9,'BRONZE',3),
    -> (18,'GOLD',4),
    -> (11,'SILVER',5),
    -> (5,'BRONZE',6);
Query OK, 6 rows affected (0.14 sec)
Records: 6  Duplicates: 0  Warnings: 0
```

Table SHARE

```
INSERT INTO share
     (price,company_id,exchange_id)
     (1000,15,4),
     (256,14,3),
     (567,16,5),
     (1334,10,1),
     (456,11,2),
     (2445,5,2),
     (1566,7,3),
     (789,2,1);
```

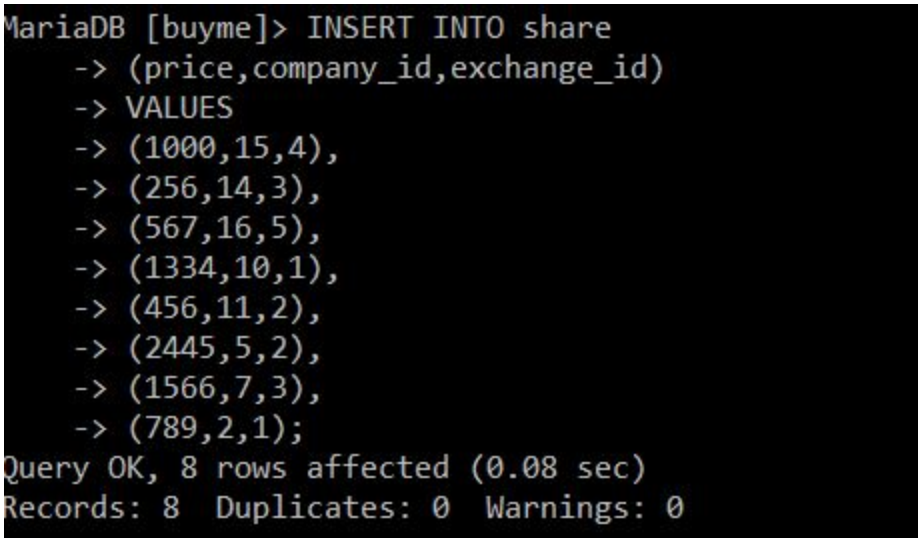


Table APPOINTMENT

```
insert into appointment(customer_id,broker_id,agenda)
     VALUES
     (1,1,'query'),
     (2,3,'transaction'),
     (3,4,'query'),
     (4,5,'transaction'),
     (5,6,'query');
insert into appointment(customer_id,broker_id)
     values(10,4),(8,3),(7,1),(5,5),(9,4);
```

```
MariaDB [buyme]> insert into appointment(customer_id,broker_id,agenda)
    -> VALUES
    -> (1,1,'query'),
    -> (2,3,'transaction'),
    -> (3,4,'query'),
    -> (4,5,'transaction'),
    -> (5,6,'query');
Query OK, 5 rows affected (0.24 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

```
MariaDB [buyme]> insert into appointment(customer_id,broker_id)
    -> values(10,4),(8,3),(7,1),(5,5),(9,4);
Query OK, 5 rows affected (0.21 sec)
Records: 5  Duplicates: 0  Warnings: 0
```

The final TABLES:

`select * from company;`

```
MariaDB [buyme]> select * from company;
+------------+----------------------+------+
| company_id | name                 | code |
+------------+----------------------+------+
|          1 | Starbucks Corporatio | SBUX |
|          2 | NXP Semiconductors   | NXPI |
|          3 | Facebook             | FB   |
|          4 | Apple                | AAPL |
|          5 | Stitch Fix           | SFIX |
|          6 | Johnson & Jhonson    | JNJ  |
|          7 | Berkshire Hathaway   | BRK  |
|          8 | HSBC                 | HSBC |
|          9 | Unilever             | UL   |
|         10 | Total SA             | ToT  |
|         11 | SAP SE               | SAP  |
|         12 | BP PLC               | BP   |
|         13 | Vodafone             | VoD  |
|         14 | AliBaba              | BABA |
|         15 | Toyota Motors        | TM   |
|         16 | BAIDU                | BIDU |
+------------+----------------------+------+
16 rows in set (0.00 sec)
```

```
select * from office;
```

```
MariaDB [buyme]> select * from office;
+-----------+------------+
| office_id | location   |
+-----------+------------+
|         1 | London     |
|         2 | Washington |
|         3 | Tokyo      |
+-----------+------------+
3 rows in set (0.00 sec)
```

```
select * from company;
```

```
MariaDB [buyme]> select * from exchange;
+-------------+-------------------------+--------+-----------+
| exchange_id | name                    | zone   | office_id |
+-------------+-------------------------+--------+-----------+
|           1 | London Stock Exchange   | Europe |         1 |
|           2 | New York Stock Exchange | USA    |         2 |
|           3 | Nasdaq Stock Exchange   | USA    |         2 |
|           4 | Tokyo Stock Exchange    | Asia   |         3 |
|           5 | Sanghai Stock Exchange  | Asia   |         3 |
+-------------+-------------------------+--------+-----------+
5 rows in set (0.00 sec)
```

Select * from customer;

```
MariaDB [buyme]> select * from customer;
+-------------+--------+----------+-----------+
| customer_id | name   | address  | office_id |
+-------------+--------+----------+-----------+
|           1 | white  | Paris    |         2 |
|           2 | walter | london   |         1 |
|           3 | smith  | texas    |         3 |
|           4 | hall   | arizona  |         2 |
|           5 | tony   | new york |         1 |
|           6 | jones  | france   |         2 |
|           7 | bill   | berlin   |         2 |
|           8 | jim    | patna    |         3 |
|           9 | tim    | harvard  |         1 |
|          10 | henry  | tokyo    |         3 |
+-------------+--------+----------+-----------+
10 rows in set (0.00 sec)
```

Select * from employee;

```
MariaDB [buyme]> select * from employee;
+-------------+------------+----------------+-------------+-----------+
| employee_id | name       | designation    | phone       | office_id |
+-------------+------------+----------------+-------------+-----------+
|           1 | jones      | broker         | 97978988    |         1 |
|           2 | joe        | broker         | 7678989     |         2 |
|           3 | heisenburg | broker         | 7679789     |         2 |
|           4 | peter      | broker         | 789788      |         1 |
|           5 | douglas    | broker         | 76878790989 |         3 |
|           6 | donald     | broker         | 7867866     |         3 |
|           7 | lily       | receptionist   | 87678978    |         1 |
|           8 | pretty     | receptionist   | 7687879     |         2 |
|           9 | kelly      | receptionist   | 98787987    |         3 |
|          10 | Bruce      | security guard | 8978979     |         1 |
+-------------+------------+----------------+-------------+-----------+
10 rows in set (0.04 sec)
```

select * from share;

```
MariaDB [buyme]> select * from share;
+----------+-------+------------+-------------+---------------------+
| share_id | price | company_id | exchange_id | last_updated        |
+----------+-------+------------+-------------+---------------------+
|        2 |   800 |          1 |           2 | 2020-06-15 18:20:32 |
|        3 |   800 |          1 |           1 | 2020-06-15 18:21:30 |
|        4 |   900 |          2 |           3 | 2020-06-15 18:45:05 |
|        5 |  1000 |         15 |           4 | 2020-06-15 18:50:32 |
|        6 |   256 |         14 |           3 | 2020-06-15 18:50:32 |
|        7 |   567 |         16 |           5 | 2020-06-15 18:50:32 |
|        8 |  1334 |         10 |           1 | 2020-06-15 18:50:32 |
|        9 |   456 |         11 |           2 | 2020-06-15 18:50:32 |
|       10 |  2445 |          5 |           2 | 2020-06-15 18:50:32 |
|       11 |  1566 |          7 |           3 | 2020-06-15 18:50:32 |
|       12 |   789 |          2 |           1 | 2020-06-15 18:50:32 |
+----------+-------+------------+-------------+---------------------+
11 rows in set (0.00 sec)
```

Select * from appointment;

```
MariaDB [buyme]> select * from appointment;
+----------------+-------------+-------------+-----------+---------------------+
| appointment_id | agenda      | customer_id | broker_id | scheduled_on        |
+----------------+-------------+-------------+-----------+---------------------+
|              1 | query       |           1 |         1 | 2020-06-15 19:01:12 |
|              2 | transaction |           2 |         3 | 2020-06-15 19:01:12 |
|              3 | query       |           3 |         4 | 2020-06-15 19:01:12 |
|              4 | transaction |           4 |         5 | 2020-06-15 19:01:12 |
|              5 | query       |           5 |         6 | 2020-06-15 19:01:12 |
|              6 | NULL        |          10 |         4 | 2020-06-15 19:06:01 |
|              7 | NULL        |           8 |         3 | 2020-06-15 19:06:01 |
|              8 | NULL        |           7 |         1 | 2020-06-15 19:06:01 |
|              9 | NULL        |           5 |         5 | 2020-06-15 19:06:01 |
|             10 | NULL        |           9 |         4 | 2020-06-15 19:06:01 |
+----------------+-------------+-------------+-----------+---------------------+
10 rows in set (0.00 sec)
```

```
Select * from broker;
```

```
MariaDB [buyme]> select * from broker;
+-------------+----------+--------+
| employee_id | bookings | level  |
+-------------+----------+--------+
|           1 |       16 | GOLD   |
|           2 |       14 | SILVER |
|           3 |        9 | BRONZE |
|           4 |       18 | GOLD   |
|           5 |       11 | SILVER |
|           6 |        5 | BRONZE |
+-------------+----------+--------+
6 rows in set (0.00 sec)
```

6. Queries:

1. Show current price of Apple for all exchanges (1 mark)

```
select e.name,s.price from share s,exchange e where company_id =
(select company_id from company where name = 'Apple') and
e.exchange_id=s.exchange_id;
```

```
MariaDB [buyme]> select e.name,s.price from share s,exchange e where company_id = (select company_id from
company where name = 'Apple') and e.exchange_id=s.exchange_id;
+------------------------+-------+
| name                   | price |
+------------------------+-------+
| London Stock Exchange  |   444 |
| New York Stock Exchange|   566 |
| Nasdaq Stock Exchange  |   398 |
| Sanghai Stock Exchange |   678 |
+------------------------+-------+
4 rows in set (0.07 sec)
```

2. Show maximum price of a share in USA market (2 mark)

```
select c.name,max(s.price) from share s, company c where
c.company_id = s.company_id;
```

```
MariaDB [buyme]> select c.name,max(s.price) from share s, company c where c.company_id = s.company_id;
+----------------------+--------------+
| name                 | max(s.price) |
+----------------------+--------------+
| Starbucks Corporatio |         2445 |
+----------------------+--------------+
1 row in set (0.12 sec)
```

3. Show minimum price for Apple for all data (from all exchanges) (2 mark)

```
 select min(price) from share where company_id = (select
company_id from company where name = 'Apple');
```

```
MariaDB [buyme]> select min(price) from share where company_id = (select company_id from company where
name = 'Apple');
+------------+
| min(price) |
+------------+
|        398 |
+------------+
1 row in set (0.00 sec)
```

4. Find broker who has maximum number of appointments (2 mark)

```
 select customer_id,max(cnt) from (select customer_id,count(*) as
cnt from appointment group by broker_id) as t2;
```

```
MariaDB [buyme]> select broker_id,max(cnt) from (select broker_id,count(*) as cnt from appointment group by
broker_id) as t2;
+-----------+----------+
| broker_id | max(cnt) |
+-----------+----------+
|         1 |        3 |
+-----------+----------+
1 row in set (0.05 sec)
```

5. Find customer which booked the maximum number of appointments (2 mark)

```
select customer_id,max(cnt) from (select customer_id,count(*) as cnt from appointment group by customer_id) as t2;
```

```
MariaDB [buyme]> select customer_id,max(cnt) from (select customer_id,count(*) as cnt from appointment group
 by customer_id) as t2;
+-------------+----------+
| customer_id | max(cnt) |
+-------------+----------+
|           1 |        2 |
+-------------+----------+
1 row in set (0.00 sec)
```

6. Show all UK stocks having price higher than average for Asian market today (2 mark)

```
 select c.name, s.price from share s, company c where s.exchange_id=1 and s.price>(select avg(price) from share where exchange_id in (4,5)) and c.company_id=s.company_id;
```

```
MariaDB [buyme]> select c.name, s.price from share s, company c where s.exchange_id=1 and s.price>(select
avg(price) from share where exchange_id in (4,5)) and c.company_id=s.company_id;
+----------------------+-------+
| name                 | price |
+----------------------+-------+
| Starbucks Corporatio |   800 |
| Total SA             |  1334 |
| NXP Semiconductors   |   789 |
+----------------------+-------+
3 rows in set (0.05 sec)
```

7. Show all stocks having price higher than average for USA market today (2 mark)

```
select c.name, s.price from share s, company c where s.price>(select avg(price) from share where exchange_id in (2,3)) and c.company_id=s.company_id;
```

```
MariaDB [buyme]> select c.name, s.price from share s, company c where s.price>(select avg(price) from share
 where exchange_id in (2,3)) and c.company_id=s.company_id;
+--------------------+-------+
| name               | price |
+--------------------+-------+
| Toyota Motors      |  1000 |
| Total SA           |  1334 |
| Stitch Fix         |  2445 |
| Berkshire Hathaway |  1566 |
+--------------------+-------+
4 rows in set (0.00 sec)
```

8. Update the price for all APPLE shares (Assuming there is a price change to 1000$)

```
UPDATE SHARE SET PRICE = 1000 WHERE COMPANY_ID = ( SELECT
COMPANY_ID FROM COMPANY WHERE NAME = ‘Apple’);
```