# American International University, Bangladesh

Faculty of Science and Technology

## Introduction to Database

Section: D

Project Name: *BIKE SHOP MANAGEMENT SYSTEM*

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Instructor

**SUPTA RICHARD PHILIP**

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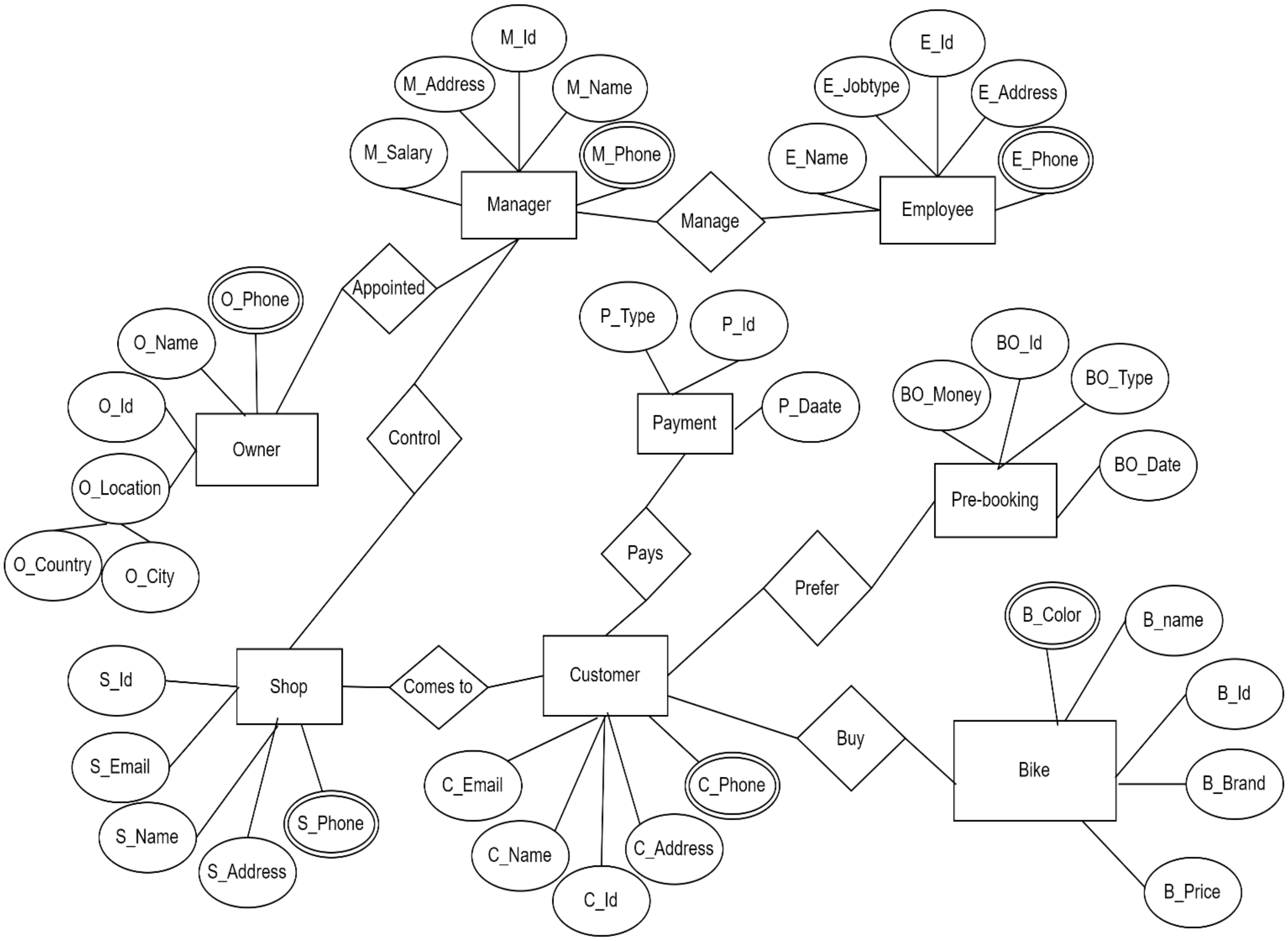
# Introduction

In the dynamic world of retail, efficient management of bike shops is crucial for providing excellent customer service and ensuring business success. The system maintains detailed records of owners, managers, employees, customers, and bikes, fostering a structured approach to information management. Our Bike Shop Management System is a comprehensive software solution designed to streamline the operations of bike shops, from owner and manager management to customer interactions and sales processes.

# CASE STUDY

A **Bikeshop Management System** is a system that allows a single owner to have multiple shops and appoint multiple managers. The owner's identity, including their name, address, and phone number, is stored in the system. The manager's identity, phone number, salary, id, address, and shop's id are also stored. Additionally, the manager manages the employees, and the employee's information is also stored. Customers come to the shop to purchase a variety of bikes, and the system stores their identification, including their id, address, email address, phone number, bike id, color, brand and price. After purchase, customers make payment using any payment method, including the payment id and date. Pre-bookings for upcoming bikes are also stored in the system, along with the customer's amount of pre-booking money, booking id, type, and date of booking.

# ER DAYAGRAM


M_Id
M_Address
M_Name
M_Salary
M_Phone
Manager
Manage
E_Id
E_Jobtype
E_Address
E_Name
E_Phone
Employee
Appointed
O_Phone
O_Name
O_Id
Owner
O_Location
O_Country
O_City
Control
P_Type
P_Id
Payment
P_Daate
Pays
BO_Id
BO_Money
BO_Type
BO_Date
Pre-booking
Prefer
B_Color
B_name
B_Id
B_Brand
B_Price
Bike
Buy
S_Id
Shop
S_Email
S_Name
S_Address
S_Phone
Comes to
Customer
C_Email
C_Phone
C_Name
C_Address
C_Id

# Normalization

## Appointed:

**UNF:** (Unnormalized form)
o_id, o_name, o_phone, o_city, o_country, m_id, m_name, m_phone, m_adress, m_salary

**1NF:** Phone multivalued attribute

o_id, o_name, o_phone, o_city, o_country, m_id, m_name, m_phone, m_adress, m_salary

**2NF:**
1.
m_id, m_name, m_phone, m_address, m_salary, **o_id**
2.
o_id, o_name, o_phone, o_city, o_country

**3NF:**
1.
m_id, m_name, m_phone, m_address, m_salary, **o_id**
2.
o_id, o_name, o_phone
3.
o_city, o_country

## Manage:

UNF: (Unnormalized form)
m_id, m_name, m_phone, m_address, m_salary, e_id, e_name, e_phone, e_address, e_jobtype

1NF: Phone multivalued attribute

m_id, m_name, m_phone, m_address, m_salary, e_id, e_name, e_phone, e_address, e_jobtype

2NF:

1.
e_id, e_name, e_phone, e_address, e_jobtype, **m_id**
2.
m_id, m_name, m_phone, m_address, m_salary

3NF:

As same as 2NF because there is no transitive dependency.

1.
e_id, e_name, e_phone, e_address, e_jobtype, **m_id**
2.
m_id, m_name, m_phone, m_address, m_salary

## Control:

UNF:

m_id, m_name, m_phone, m_address, m_salary, s_id, s_name, s_phone, s_email, s_address

1NF: Phone multivalued attribute

m_id, m_name, m_phone, m_address, m_salary, s_id, s_name, s_phone, s_email, s_address

2NF:

1.
s_id, s_name, s_phone, s_email, s_address, **m_id**
2.
m_id, m_name, m_phone, m_address, m_salary

3NF: As same as 2NF because there is no transitive dependency

1.
s_id, s_name, s_phone, s_email, s_address, **m_id**
2.
m_id, m_name, m_phone, m_address, m_salary

## Come to:

### UNF:

s_id, s_name, s_phone, s_email, s_address, c_id, c_name, c_address, c_phone, c_email

**1NF:** Phone number is multivalued attribute

s_id, s_name, s_phone, s_email, s_address, c_id, c_name, c_address, c_phone, c_email

**2NF:**

1.

s_id, s_name, s_phone, s_email, s_address

2.

c_id, c_name, c_address, c_phone, c_email, **s_id**

**3NF:** As same as 2NF because there is no transitive dependency

1.

s_id, s_name, s_phone, s_email, s_address

2.

c_id, c_name, c_address, c_phone, c_email, **s_id**

## Pays:

**UNF:**

c_id, c_name, c_address, c_phone, c_email, p_id, p_date, p_type

**1NF:** Phone multivalued attribute

c_id, c_name, c_address, c_phone, c_email, p_id, p_date, p_type

**2NF:**

1.

c_id, c_name, c_address, c_phone, c_email

2.

p_id, p_date, p_type, **c_id**

**3NF:** As same as 2NF because there is no transitive dependency

1.

c_id, c_name, c_address, c_phone, c_email

2.

p_id, p_date, p_type, **c_id**

## Prefer:

**UNF:**

c_id, c_name, c_address, c_phone, c_email, bo_id, bo_money, bo_type, bo_date

**1NF:** Phone multivalued attribute

c_id, c_name, c_address, c_phone, c_email, bo_id, bo_money, bo_type, bo_date

**2NF:**

1.

c_id, c_name, c_address, c_phone, c_email

2.

bo_id, bo_money, bo_type, bo_date, **c_id**

**3NF:** As same as 2NF because there is no transitive dependency

1.

c_id, c_name, c_address, c_phone, c_email

2.

bo_id, bo_money, bo_type, bo_date, **c_id**

## Buy:

**UNF:**

c_id**,** c_name**,** c_address**,** c_phone**,** c_email**,** b_id, b_name, b_brand, b_color, b_price

**1NF:** Phone, b_name is multivalued attribute

c_id**,** c_name**,** c_address**,** c_phone**,** c_email**,** b_id, b_name, b_brand, b_color, b_price

**2NF:**

1.

c_id**,** c_name**,** c_address**,** c_phone**,** c_email

2.

b_id, b_name, b_brand, b_color, b_price, **c_id**

**3NF:** As same as 2NF because there is no transitive dependency

1.

c_id**,** c_name**,** c_address**,** c_phone**,** c_email

2.

b_id, b_name, b_brand, b_color, b_price, **c_id**

# Finalization

## Total table:

1.
m_id, m_name, m_phone, m_address, m_salary, **o_id**
2.
o_id, o_name, o_phone
3.
o_city, o_country
4.
e_id, e_name, e_phone, e_address, e_jobtype, **m_id**
~~5.~~
~~m_id, m_name, m_phone, m_address, m_salary~~
6.
s_id, s_name, s_phone, s_email, s_address, **m_id**
~~7.~~
~~m_id, m_name, m_phone, m_address, m_salary~~
~~8.~~
~~s_id, s_name, s_phone, s_email, s_address~~
9.
c_id, c_name, c_address, c_phone, c_email, **s_id**
~~10~~.
~~c_id, c_name, c_address, c_phone, c_email~~
11.
p_id, p_date, p_type, **c_id**
~~12~~.
~~c_id, c_name, c_address, c_phone, c_email~~
13.
bo_id, bo_money, bo_type, bo_date, **c_id**
~~14~~.
~~c_id, c_name, c_address, c_phone, c_email~~
15.
b_id, b_name, b_brand, b_color, b_price, **c_id**

## Final table:

1.
m_id, m_name, m_phone, m_address, m_salary, **o_id**
2.
o_id, o_name, o_phone
3.
o_city, o_country
4.
e_id, e_name, e_phone, e_address, e_jobtype, **m_id**
5.

s_id, s_name, s_phone, s_email, s_address, **m_id**

6.

c_id, c_name, c_address, c_phone, c_email, **s_id**

7.

p_id, p_date, p_type, **c_id**

8.

bo_id, bo_money, bo_type, bo_date, **c_id**

9.

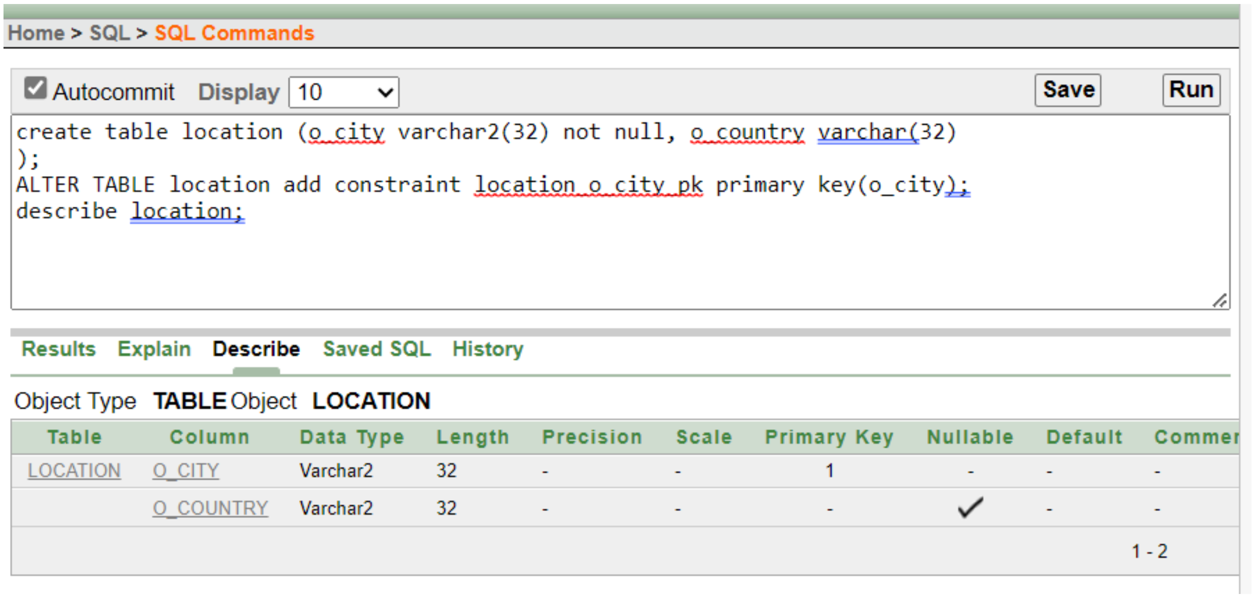
b_id, b_name, b_brand, b_color, b_price, **c_id**

# Table creation

1. create table location (o_city varchar2(32) not null, o_country varchar(32) );

ALTER TABLE location add constraint location_o_city_pk primary key(o_city);

describe location;



```
create table location (o_city varchar2(32) not null, o_country varchar(32)
);
ALTER TABLE location add constraint location_o_city_pk primary key(o_city);
describe location;
```

Object Type **TABLE** Object **LOCATION**

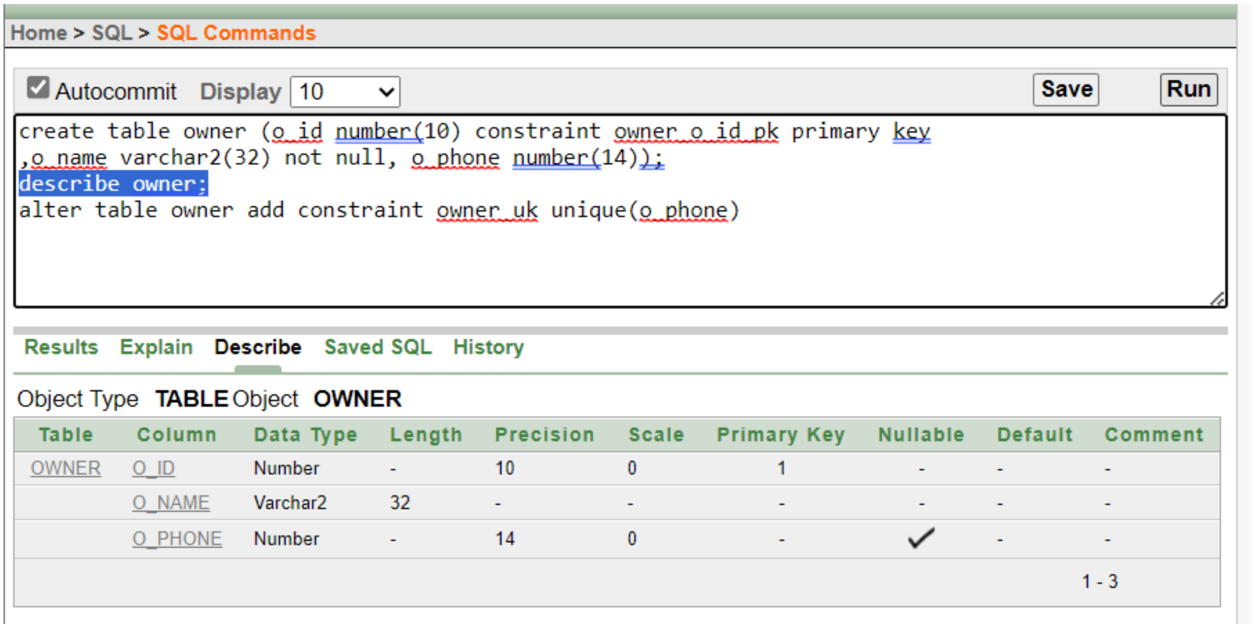
| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Commer |
|---|---|---|---|---|---|---|---|---|---|
| LOCATION | O_CITY | Varchar2 | 32 | - | - | 1 | - | - | - |
| | O_COUNTRY | Varchar2 | 32 | - | - | - | ✓ | - | - |

1 - 2

2. create table owner (o_id number(10) constraint owner_o_id_pk primary key ,o_name varchar2(32) not null, o_phone number(14));

describe owner;

alter table owner add constraint owner_uk unique(o_phone)



```
create table owner (o_id number(10) constraint owner_o_id_pk primary key
,o_name varchar2(32) not null, o_phone number(14));
describe owner;
alter table owner add constraint owner_uk unique(o_phone)
```

Object Type **TABLE** Object **OWNER**

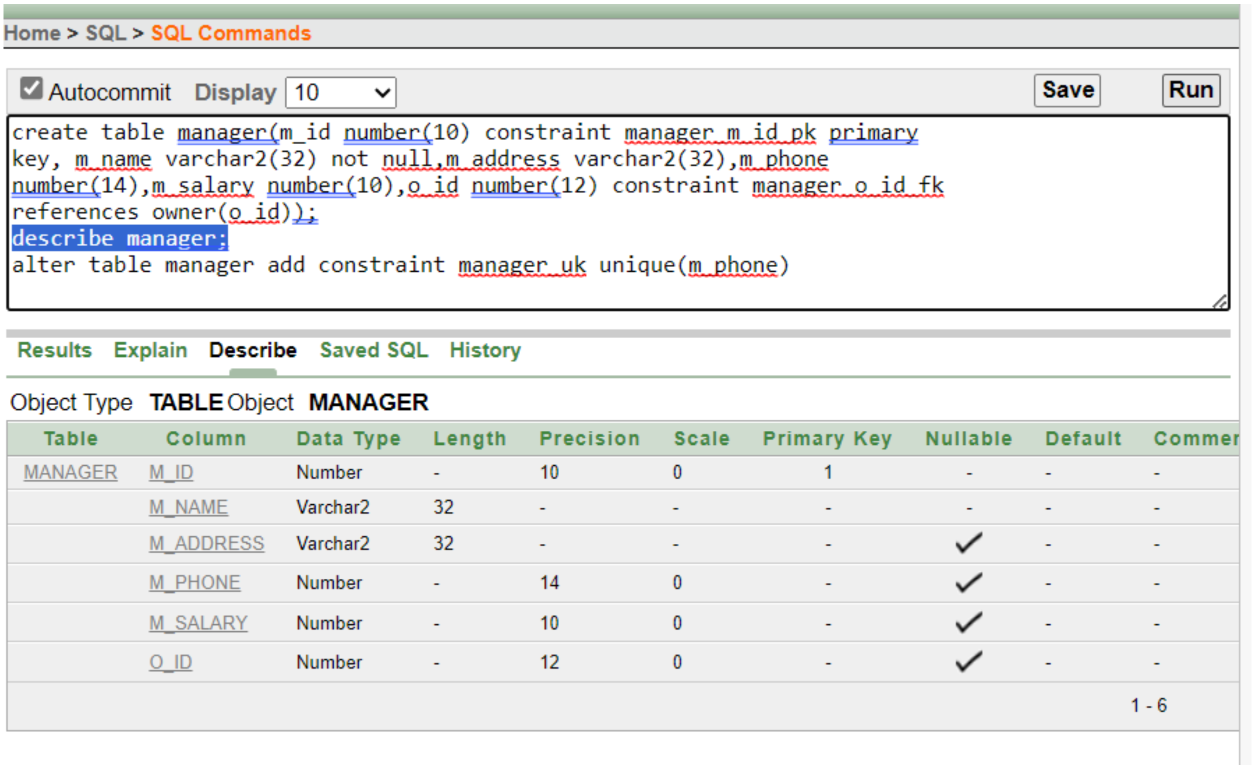
| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---|---|---|---|---|---|---|---|---|---|
| OWNER | O_ID | Number | - | 10 | 0 | 1 | - | - | - |
| | O_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | O_PHONE | Number | - | 14 | 0 | - | ✓ | - | - |

1 - 3

3.create table manager(m_id number(10) constraint manager_m_id_pk primary key, m_name varchar2(32) not null,m_address varchar2(32),m_phone number(14),m_salary number(10),o_id number(12) constraint manager_o_id_fk references owner(o_id));

describe manager;

alter table manager add constraint manager_uk unique(m_phone)



```
create table manager(m_id number(10) constraint manager_m_id_pk primary
key, m_name varchar2(32) not null,m_address varchar2(32),m_phone
number(14),m_salary number(10),o_id number(12) constraint manager_o_id_fk
references owner(o_id));
describe manager;
alter table manager add constraint manager_uk unique(m_phone)
```

Object Type **TABLE** Object **MANAGER**

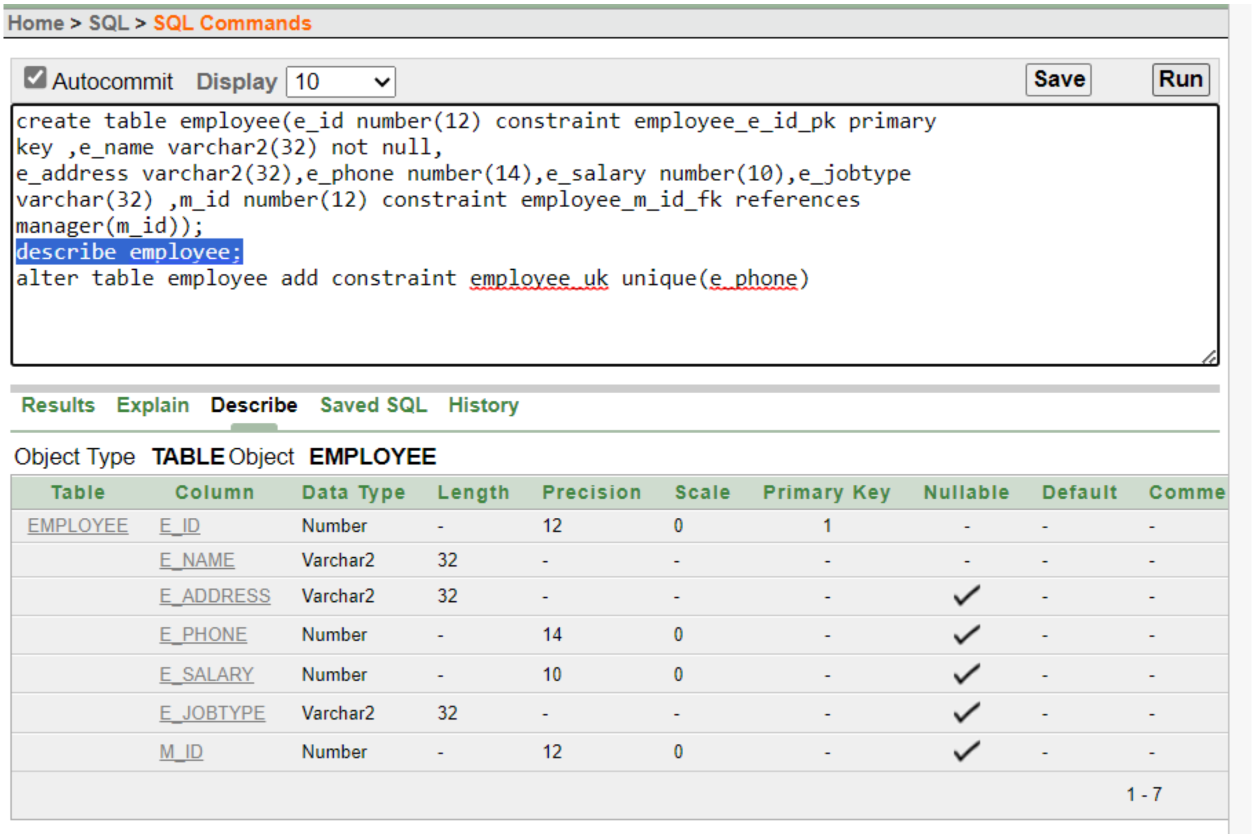
| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Commer |
|---|---|---|---|---|---|---|---|---|---|
| MANAGER | M_ID | Number | - | 10 | 0 | 1 | - | - | - |
| | M_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | M_ADDRESS | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | M_PHONE | Number | - | 14 | 0 | - | ✓ | - | - |
| | M_SALARY | Number | - | 10 | 0 | - | ✓ | - | - |
| | O_ID | Number | - | 12 | 0 | - | ✓ | - | - |

1 - 6

4.create table employee(e_id number(12) constraint employee_e_id_pk primary key ,e_name varchar2(32) not null, e_address varchar2(32),e_phone number(14),e_salary number(10),e_jobtype varchar(32) ,m_id number(12) constraint employee_m_id_fk references manager(m_id));

describe employee;

alter table employee add constraint employee_uk unique(e_phone)



```
create table employee(e_id number(12) constraint employee_e_id_pk primary
key ,e_name varchar2(32) not null,
e_address varchar2(32),e_phone number(14),e_salary number(10),e_jobtype
varchar(32) ,m_id number(12) constraint employee_m_id_fk references
manager(m_id));
describe employee;
alter table employee add constraint employee_uk unique(e_phone)
```

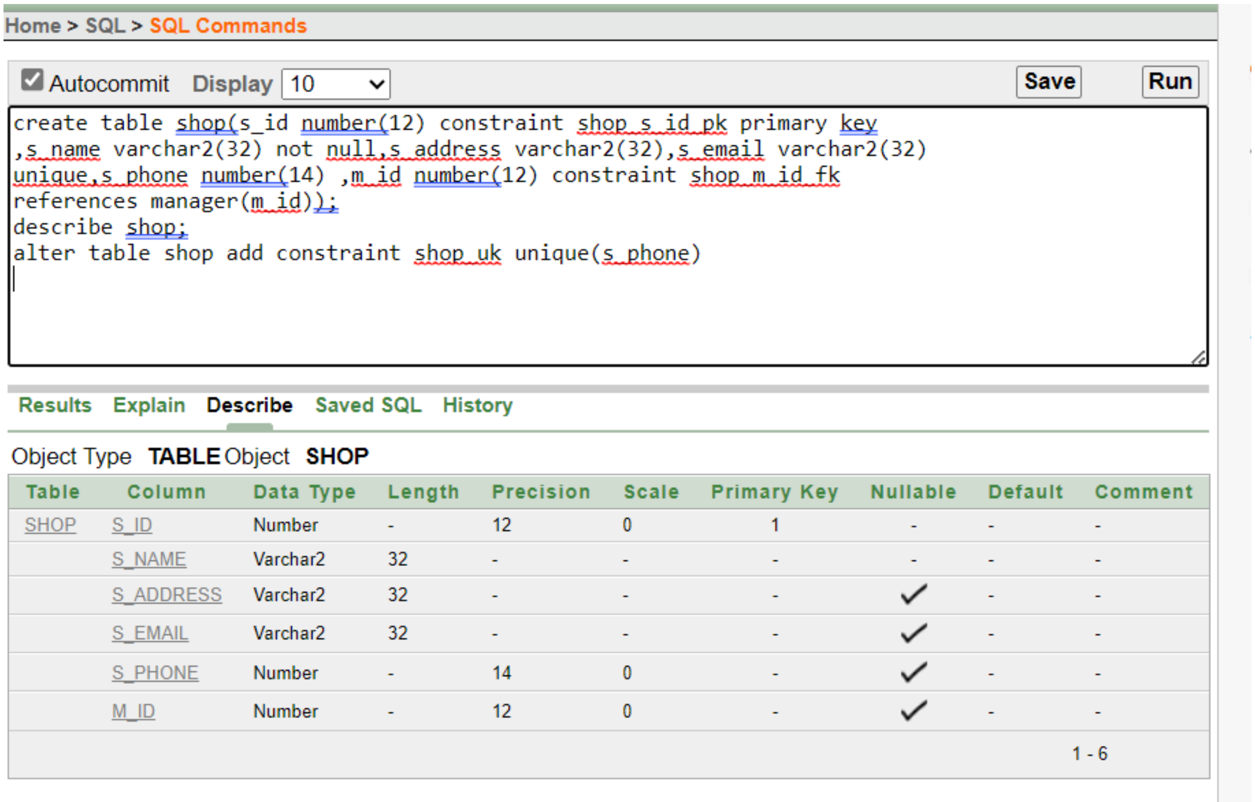
Object Type **TABLE** Object **EMPLOYEE**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comme |
|---|---|---|---|---|---|---|---|---|---|
| EMPLOYEE | E_ID | Number | - | 12 | 0 | 1 | - | - | - |
| | E_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | E_ADDRESS | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | E_PHONE | Number | - | 14 | 0 | - | ✓ | - | - |
| | E_SALARY | Number | - | 10 | 0 | - | ✓ | - | - |
| | E_JOBTYPE | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | M_ID | Number | - | 12 | 0 | - | ✓ | - | - |

5.create table shop(s_id number(12) constraint shop_s_id_pk primary key ,s_name varchar2(32) not null,s_address varchar2(32),s_email varchar2(32) unique,s_phone number(14) ,m_id number(12) constraint shop_m_id_fk references manager(m_id));

describe shop;

alter table shop add constraint shop_uk unique(s_phone)



```
create table shop(s_id number(12) constraint shop_s_id_pk primary key
,s_name varchar2(32) not null,s_address varchar2(32),s_email varchar2(32)
unique,s_phone number(14) ,m_id number(12) constraint shop_m_id_fk
references manager(m_id));
describe shop;
alter table shop add constraint shop_uk unique(s_phone)
```

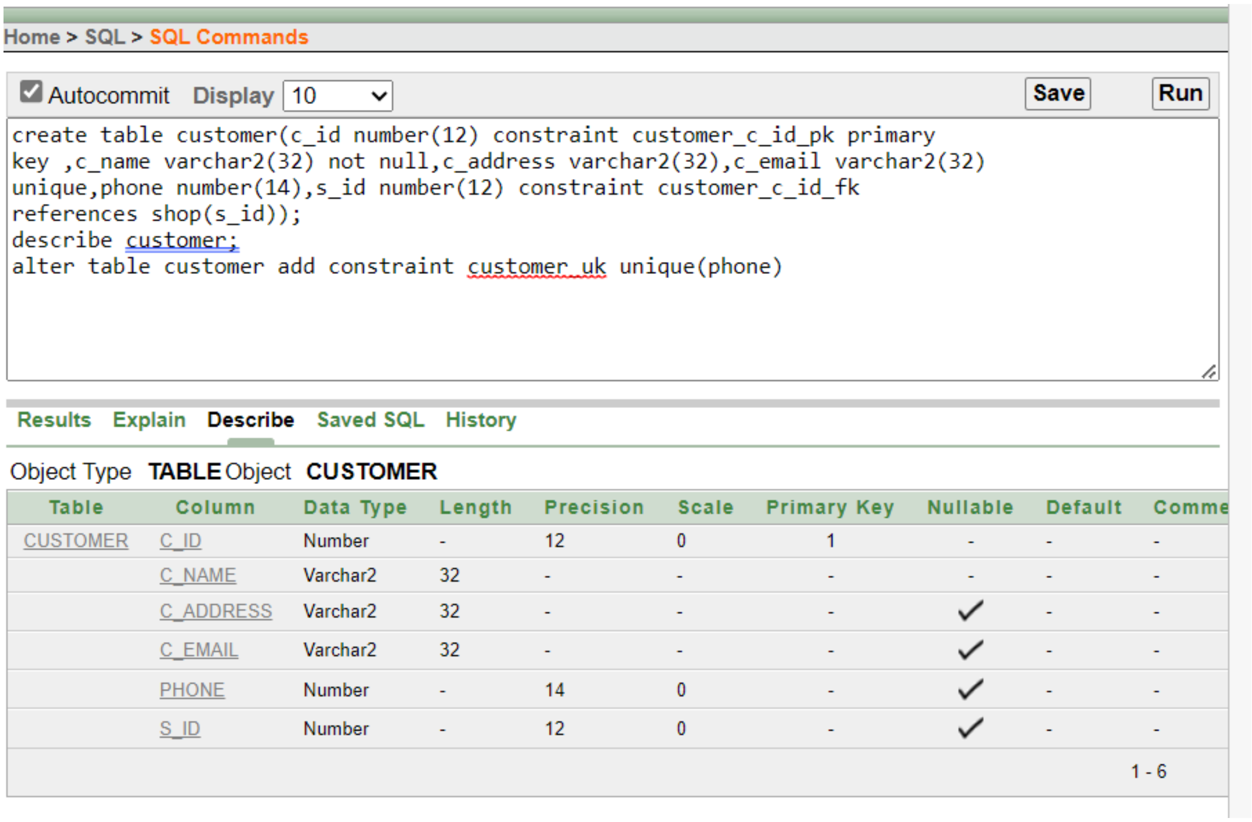
Object Type **TABLE** Object **SHOP**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---|---|---|---|---|---|---|---|---|---|
| SHOP | S_ID | Number | - | 12 | 0 | 1 | - | - | - |
| | S_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | S_ADDRESS | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | S_EMAIL | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | S_PHONE | Number | - | 14 | 0 | - | ✓ | - | - |
| | M_ID | Number | - | 12 | 0 | - | ✓ | - | - |
| | | | | | | | | 1 - 6 | |

6.create table customer(c_id number(12) constraint customer_c_id_pk primary key ,c_name varchar2(32) not null,c_address varchar2(32),c_email varchar2(32) unique,phone number(14),s_id number(12) constraint customer_c_id_fk references shop(s_id));

describe customer;

alter table customer add constraint customer_uk unique(phone)


Home > SQL > SQL Commands
☑ Autocommit Display 10
Save
Run
Results Explain Describe Saved SQL History

```
create table customer(c_id number(12) constraint customer_c_id_pk primary
key ,c_name varchar2(32) not null,c_address varchar2(32),c_email varchar2(32)
unique,phone number(14),s_id number(12) constraint customer_c_id_fk
references shop(s_id));
describe customer;
alter table customer add constraint customer_uk unique(phone)
```

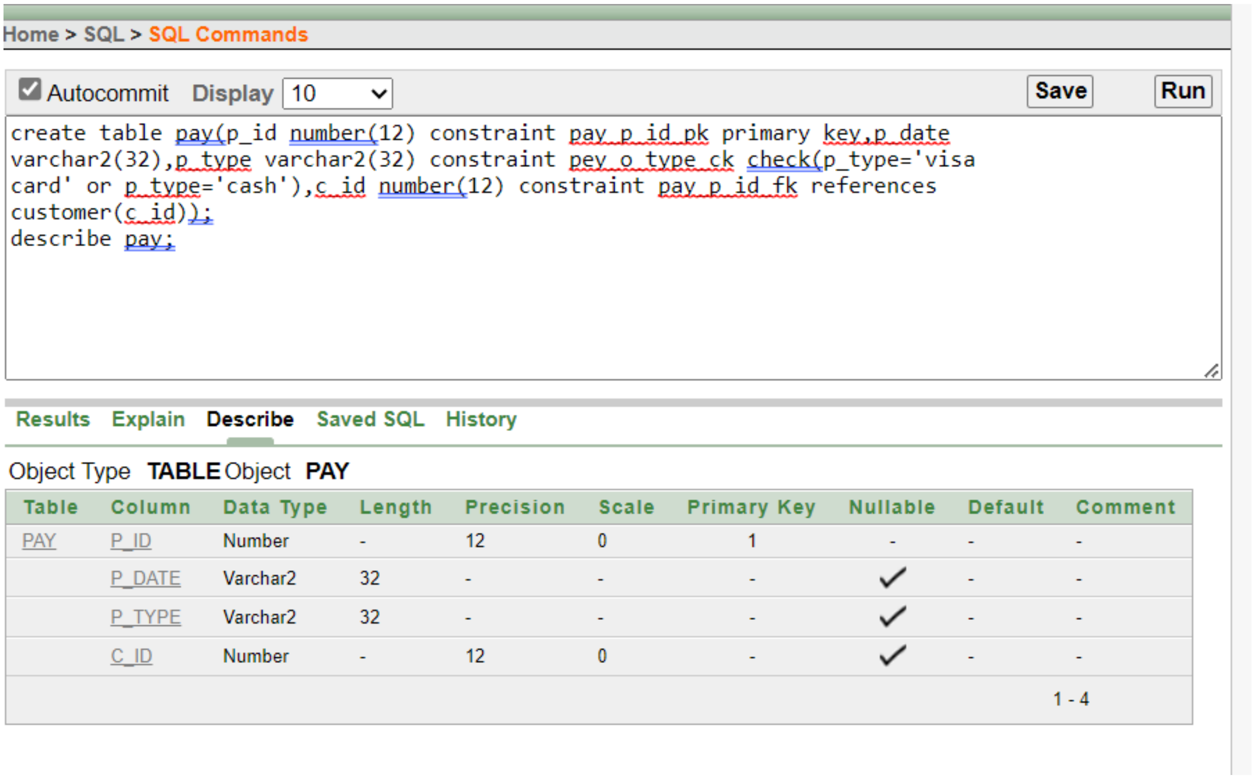
Object Type **TABLE** Object **CUSTOMER**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comme |
|---|---|---|---|---|---|---|---|---|---|
| CUSTOMER | C_ID | Number | - | 12 | 0 | 1 | - | - | - |
| | C_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | C_ADDRESS | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | C_EMAIL | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | PHONE | Number | - | 14 | 0 | - | ✓ | - | - |
| | S_ID | Number | - | 12 | 0 | - | ✓ | - | - |

1 - 6

7.create table pay(p_id number(12) constraint pay_p_id_pk primary key,p_date varchar2(32),p_type varchar2(32) constraint pey_o_type_ck check(p_type='visa card' or p_type='cash'),c_id number(12) constraint pay_p_id_fk references customer(c_id));

describe pay;



```
create table pay(p_id number(12) constraint pay_p_id_pk primary key,p_date
varchar2(32),p_type varchar2(32) constraint pey_o_type_ck check(p_type='visa
card' or p_type='cash'),c_id number(12) constraint pay_p_id_fk references
customer(c_id));
describe pay;
```

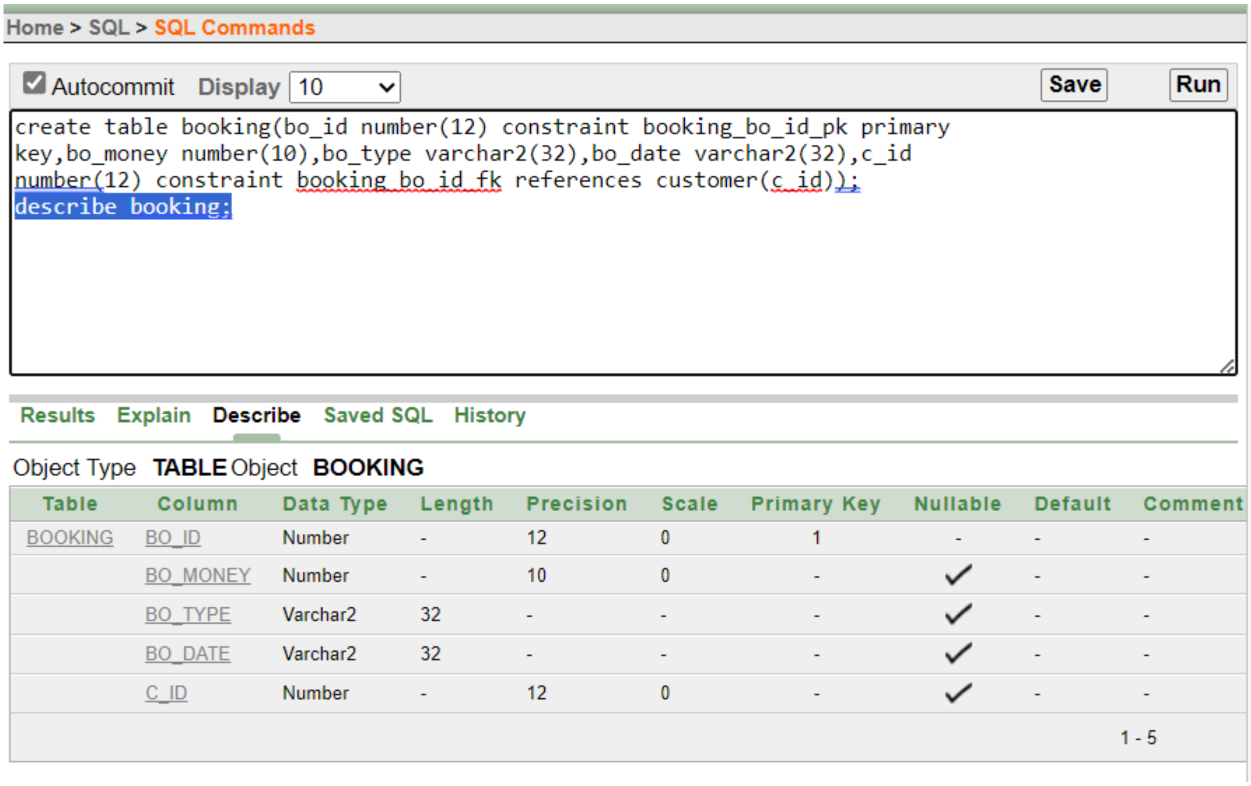
Object Type **TABLE** Object **PAY**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---|---|---|---|---|---|---|---|---|---|
| PAY | P_ID | Number | - | 12 | 0 | 1 | - | - | - |
| | P_DATE | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | P_TYPE | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | C_ID | Number | - | 12 | 0 | - | ✓ | - | - |

1 - 4

8.create table booking(bo_id number(12) constraint booking_bo_id_pk primary key,bo_money number(10),bo_type varchar2(32),bo_date varchar2(32),c_id number(12) constraint booking_bo_id_fk references customer(c_id));

describe booking;



```
create table booking(bo_id number(12) constraint booking_bo_id_pk primary
key,bo_money number(10),bo_type varchar2(32),bo_date varchar2(32),c_id
number(12) constraint booking_bo_id_fk references customer(c_id));
describe booking;
```

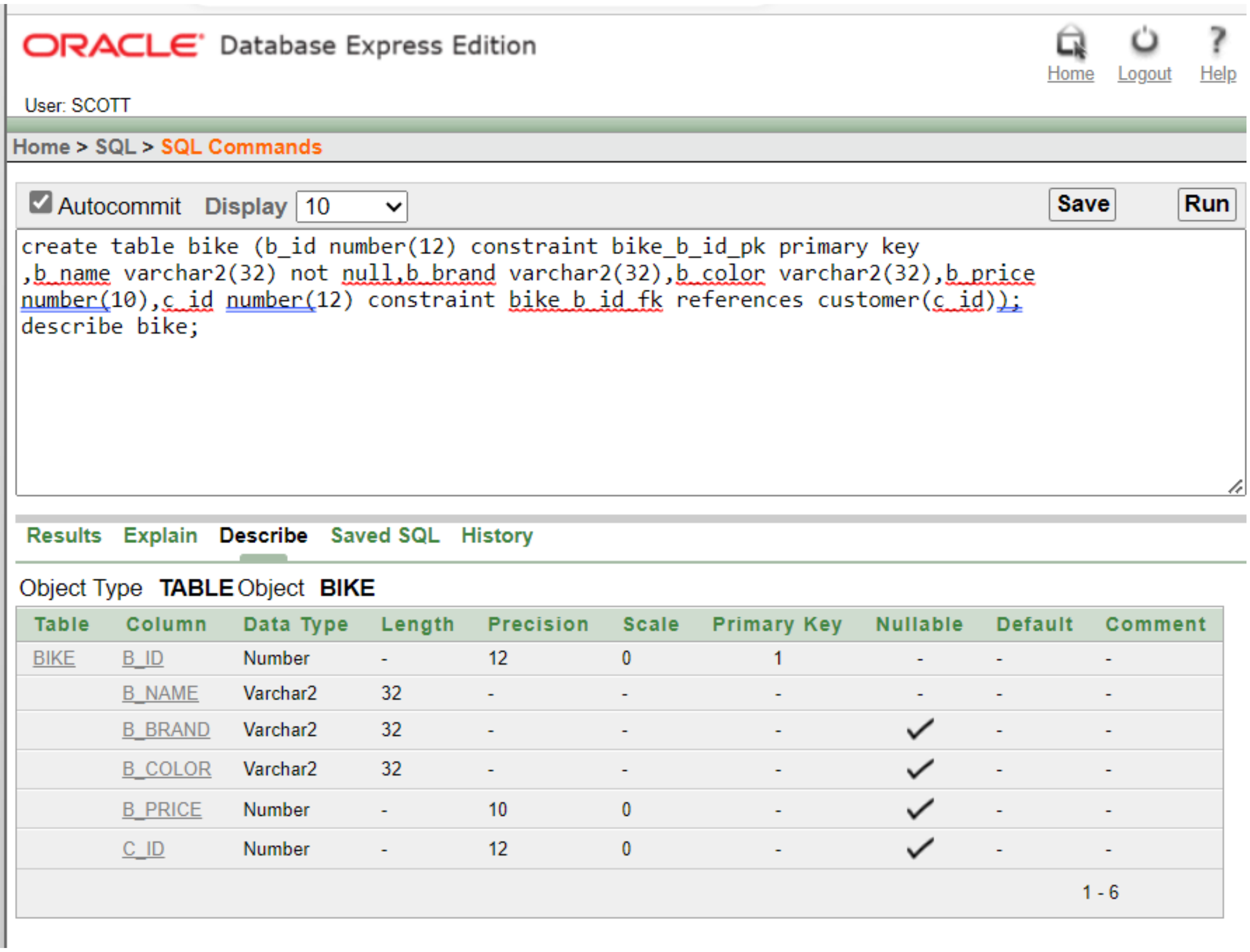
Object Type **TABLE** Object **BOOKING**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---|---|---|---|---|---|---|---|---|---|
| BOOKING | BO_ID | Number | - | 12 | 0 | 1 | - | - | - |
|  | BO_MONEY | Number | - | 10 | 0 | - | ✓ | - | - |
|  | BO_TYPE | Varchar2 | 32 | - | - | - | ✓ | - | - |
|  | BO_DATE | Varchar2 | 32 | - | - | - | ✓ | - | - |
|  | C_ID | Number | - | 12 | 0 | - | ✓ | - | - |

1 - 5

9.create table bike (b_id number(12) constraint bike_b_id_pk primary key ,b_name varchar2(32) not null,b_brand varchar2(32),b_color varchar2(32),b_price number(10),c_id number(12) constraint bike_b_id_fk references customer(c_id));

describe bike;



```
create table bike (b_id number(12) constraint bike_b_id_pk primary key
,b_name varchar2(32) not null,b_brand varchar2(32),b_color varchar2(32),b_price
number(10),c_id number(12) constraint bike_b_id_fk references customer(c_id));
describe bike;
```

Object Type **TABLE** Object **BIKE**

| Table | Column | Data Type | Length | Precision | Scale | Primary Key | Nullable | Default | Comment |
|---|---|---|---|---|---|---|---|---|---|
| BIKE | B_ID | Number | - | 12 | 0 | 1 | - | - | - |
| | B_NAME | Varchar2 | 32 | - | - | - | - | - | - |
| | B_BRAND | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | B_COLOR | Varchar2 | 32 | - | - | - | ✓ | - | - |
| | B_PRICE | Number | - | 10 | 0 | - | ✓ | - | - |
| | C_ID | Number | - | 12 | 0 | - | ✓ | - | - |

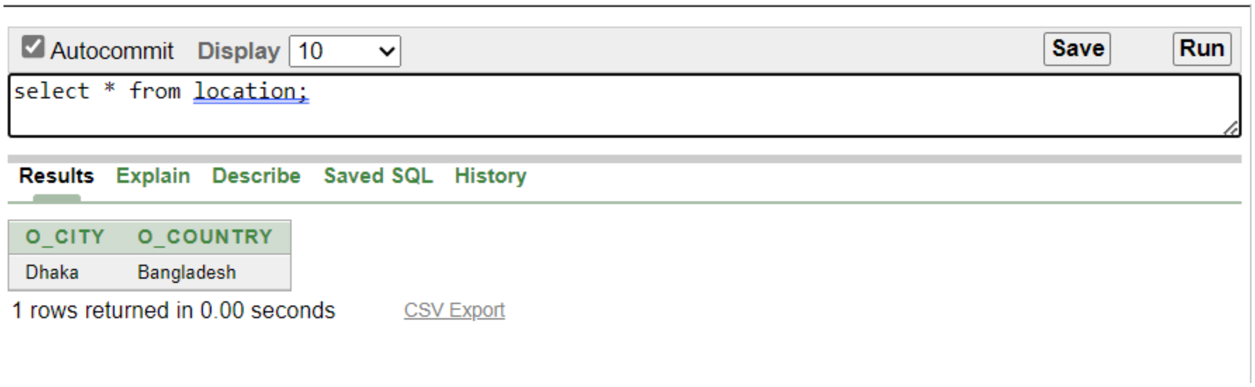
1 - 6

# Data Insert

## Location

insert into location values ('Dhaka','Bangladesh');

select * from location;



```
select * from location;
```

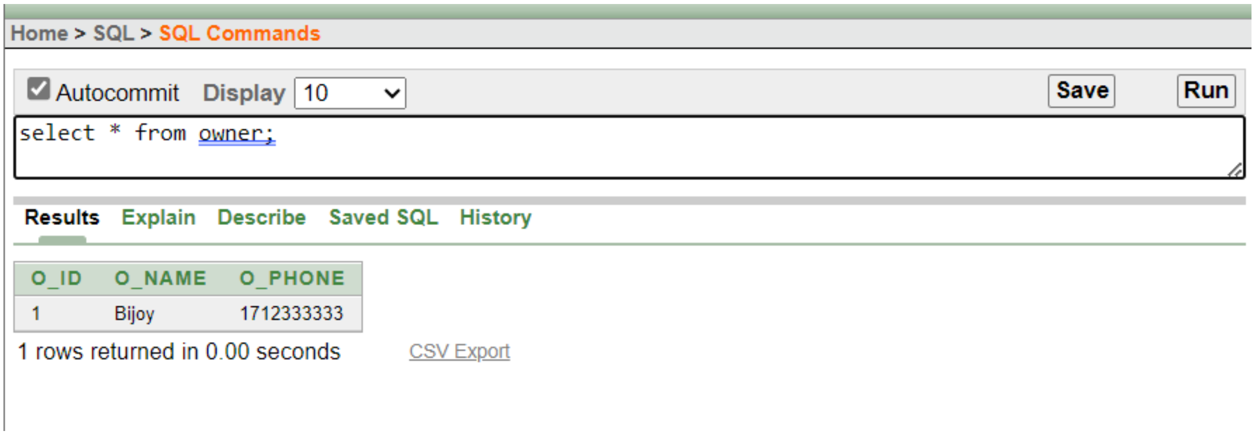
| O_CITY | O_COUNTRY |
|---|---|
| Dhaka | Bangladesh |

1 rows returned in 0.00 seconds

## Owner

insert into owner values (1,'Bijoy',01712333333)

select * from owner;



```
select * from owner;
```

| O_ID | O_NAME | O_PHONE |
|---|---|---|
| 1 | Bijoy | 1712333333 |

1 rows returned in 0.00 seconds

## Manager

insert into manager values(501,'Yusuf','Basundhara R/A', 01712111111, 12000,1);

insert into manager values(502,'Mushfiq','Dhanmondi',01712222222,1260 0,1);

insert into manager values(503,'Limon','Kuril',01712333333,12200,1);

insert into manager values(504,'Sajib','Mirpur 11',01712444444,19000,1);

insert into manager values(505,'Sami','Nababganj',01712555555,11000,1);

insert into manager values(506,'Konok','Dhanmondi 27',01712666666,12080,1);

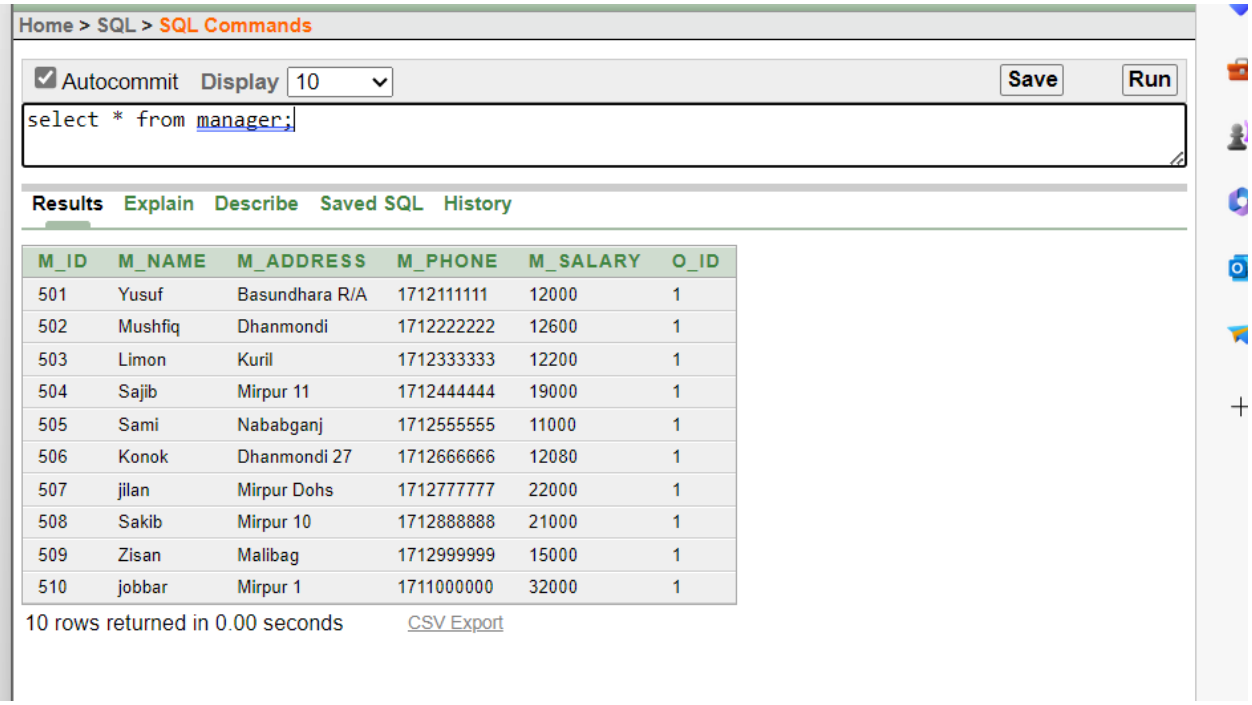
insert into manager values(507,'jilan','Mirpur Dohs', 01712777777,22000,1);

insert into manager values(508,'Sakib','Mirpur 10',01712888888,21000,1);

insert into manager values(509,'Zisan','Malibag',01712999999,15000,1);

insert into manager values(510,'jobbar','Mirpur 1',01711000000,32000,1);

select * from manager



```
select * from manager;
```

| M_ID | M_NAME | M_ADDRESS | M_PHONE | M_SALARY | O_ID |
|---|---|---|---|---|---|
| 501 | Yusuf | Basundhara R/A | 1712111111 | 12000 | 1 |
| 502 | Mushfiq | Dhanmondi | 1712222222 | 12600 | 1 |
| 503 | Limon | Kuril | 1712333333 | 12200 | 1 |
| 504 | Sajib | Mirpur 11 | 1712444444 | 19000 | 1 |
| 505 | Sami | Nababganj | 1712555555 | 11000 | 1 |
| 506 | Konok | Dhanmondi 27 | 1712666666 | 12080 | 1 |
| 507 | jilan | Mirpur Dohs | 1712777777 | 22000 | 1 |
| 508 | Sakib | Mirpur 10 | 1712888888 | 21000 | 1 |
| 509 | Zisan | Malibag | 1712999999 | 15000 | 1 |
| 510 | jobbar | Mirpur 1 | 1711000000 | 32000 | 1 |

10 rows returned in 0.00 seconds

## Employee

insert into employee values(301,'Rafiq','Tenari',01912111111,6500,'Selesma n',501)

insert into employee values(302,'Karim','Gulisthan',01912222222,6800,'Sel esman',502)

insert into employee values(303,'Hasib','Kuratoli',01912333333,6100,'Seles man',503)

insert into employee values(304,'Rafiq','Mohammadpur',01912444444,690 0,'Selesman',504)

insert into employee values(305,'Diganta','Banani',01912555555,6300,'Sele sman',505)

insert into employee values(306,'Faysal','Demra',01912666666,6700,'Seles man',506)

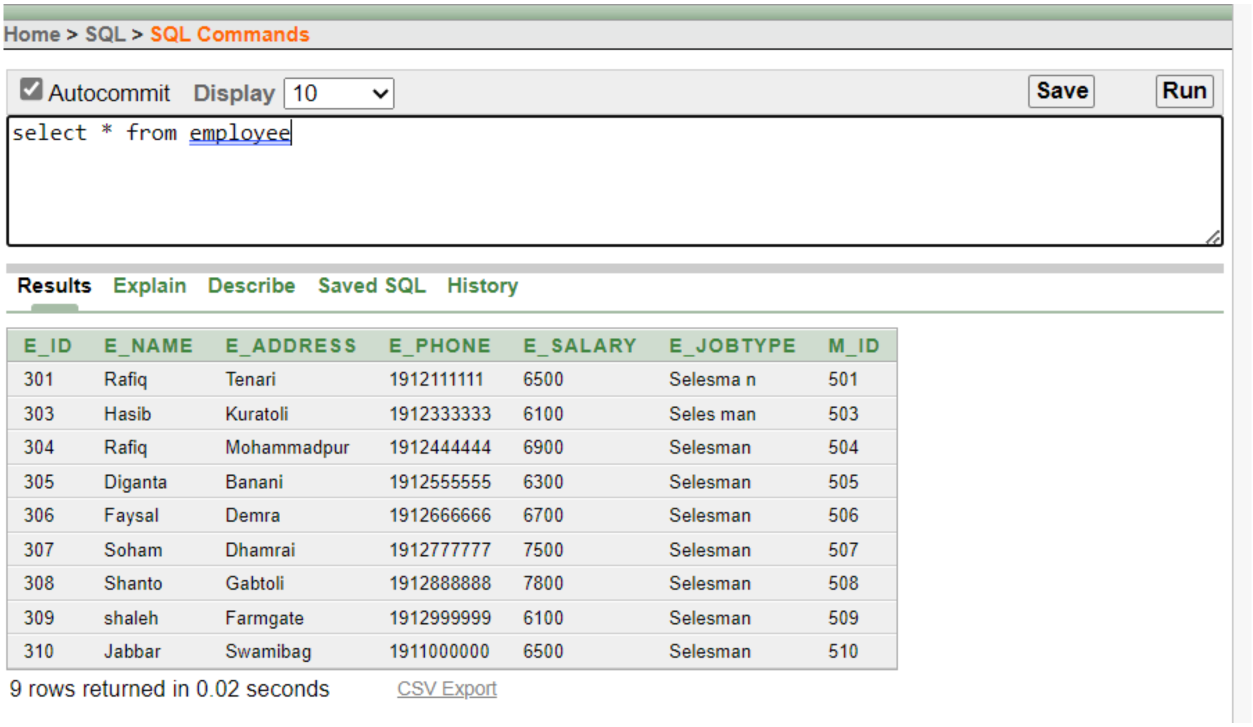
insert into employee values(307,'Soham','Dhamrai',01912777777,7500,'Sel esman',507)

insert into employee values(308,'Shanto','Gabtoli',01912888888,7800,'Seles man',508)

insert into employee values(309,'shaleh','Farmgate',01912999999,6100,'Sel esman',509)

insert into employee values(310,'Jabbar','Swamibag',01911000000,6500,'Se lesman',510)

select * from employee



```
select * from employee
```

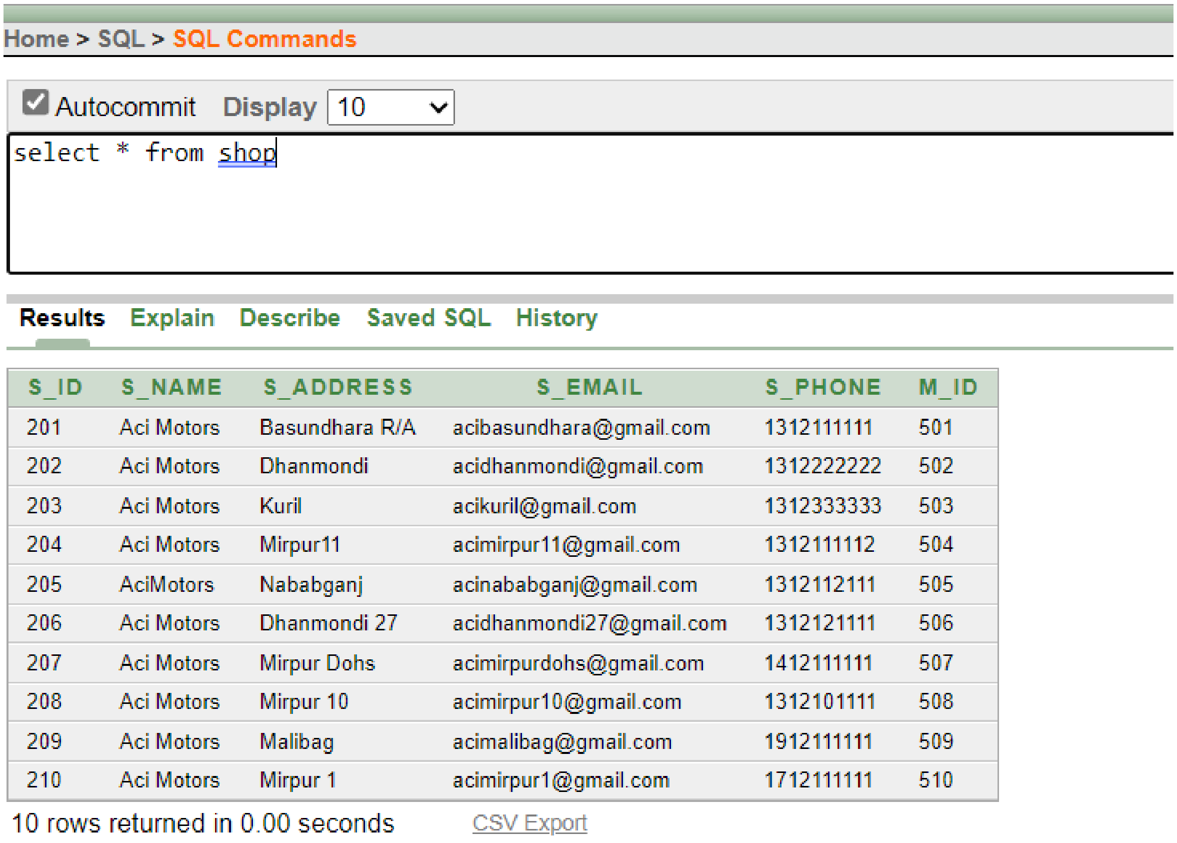
| E_ID | E_NAME | E_ADDRESS | E_PHONE | E_SALARY | E_JOBTYPE | M_ID |
|---|---|---|---|---|---|---|
| 301 | Rafiq | Tenari | 1912111111 | 6500 | Selesma n | 501 |
| 303 | Hasib | Kuratoli | 1912333333 | 6100 | Seles man | 503 |
| 304 | Rafiq | Mohammadpur | 1912444444 | 6900 | Selesman | 504 |
| 305 | Diganta | Banani | 1912555555 | 6300 | Selesman | 505 |
| 306 | Faysal | Demra | 1912666666 | 6700 | Selesman | 506 |
| 307 | Soham | Dhamrai | 1912777777 | 7500 | Selesman | 507 |
| 308 | Shanto | Gabtoli | 1912888888 | 7800 | Selesman | 508 |
| 309 | shaleh | Farmgate | 1912999999 | 6100 | Selesman | 509 |
| 310 | Jabbar | Swamibag | 1911000000 | 6500 | Selesman | 510 |

9 rows returned in 0.02 seconds

## Shop

insert into shop values (201,'Aci Motors','Basundhara
R/A','acibasundhara@gmail.com',01312111111,501)
insert into shop values (202,'Aci Motors','Dhanmondi','acidhanmondi@gmail.com',013
12222222,502)
insert into shop values (203,'Aci Motors','Kuril','acikuril@gmail.com',01312333333,50 3)
insert into shop values (204,'Aci Motors','Mirpur
11','acimirpur11@gmail.com',01312111112,504) insert into shop values (205,'Aci
Motors','Nababganj','acinababganj@gmail.com',01312 112111,505)
insert into shop values (206,'Aci Motors','Dhanmondi
27','acidhanmondi27@gmail.com',01312121111,506)
insert into shop values (207,'Aci Motors','Mirpur
Dohs','acimirpurdohs@gmail.com',01412111111,507)
insert into shop values (208,'Aci Motors','Mirpur
10','acimirpur10@gmail.com',01312101111,508)
insert into shop values (209,'Aci Motors','Malibag','acimalibag@gmail.com',019121111 11,509)
insert into shop values (210,'Aci Motors','Mirpur 1','acimirpur1@gmail.com',01712111111,510)

select * from shop



```
select * from shop
```

| S_ID | S_NAME | S_ADDRESS | S_EMAIL | S_PHONE | M_ID |
|---|---|---|---|---|---|
| 201 | Aci Motors | Basundhara R/A | acibasundhara@gmail.com | 1312111111 | 501 |
| 202 | Aci Motors | Dhanmondi | acidhanmondi@gmail.com | 1312222222 | 502 |
| 203 | Aci Motors | Kuril | acikuril@gmail.com | 1312333333 | 503 |
| 204 | Aci Motors | Mirpur11 | acimirpur11@gmail.com | 1312111112 | 504 |
| 205 | AciMotors | Nababganj | acinababganj@gmail.com | 1312112111 | 505 |
| 206 | Aci Motors | Dhanmondi 27 | acidhanmondi27@gmail.com | 1312121111 | 506 |
| 207 | Aci Motors | Mirpur Dohs | acimirpurdohs@gmail.com | 1412111111 | 507 |
| 208 | Aci Motors | Mirpur 10 | acimirpur10@gmail.com | 1312101111 | 508 |
| 209 | Aci Motors | Malibag | acimalibag@gmail.com | 1912111111 | 509 |
| 210 | Aci Motors | Mirpur 1 | acimirpur1@gmail.com | 1712111111 | 510 |

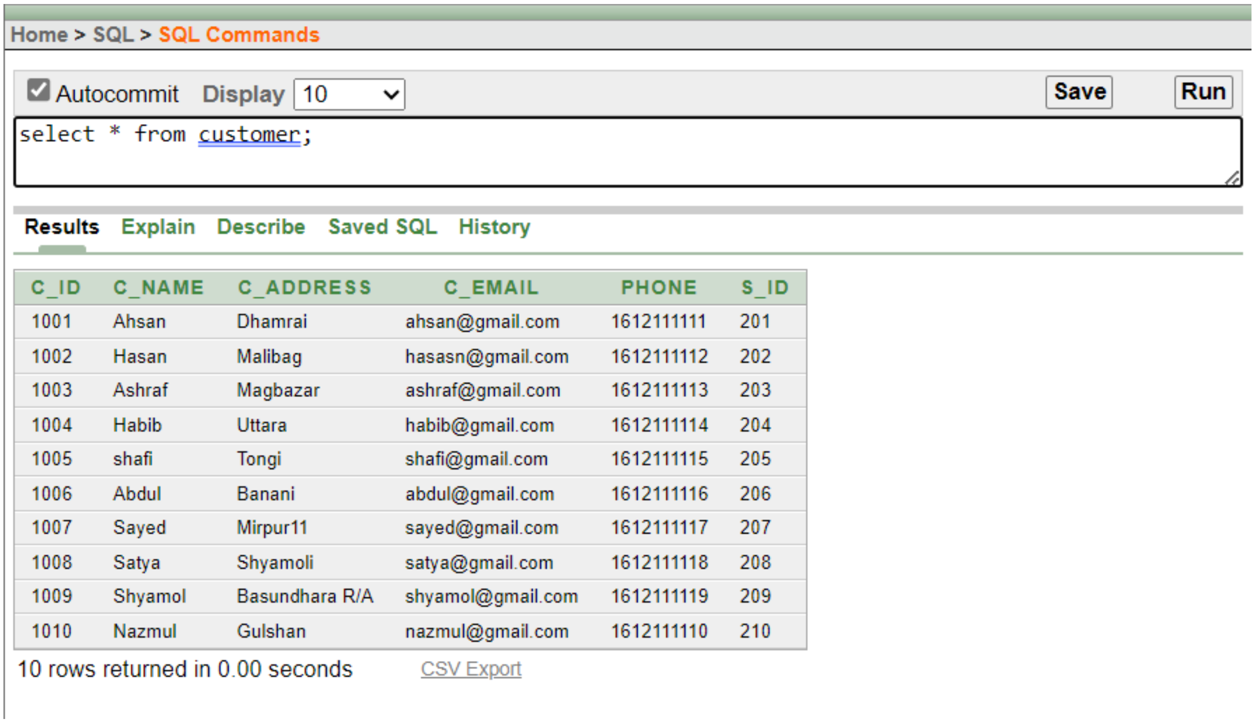
10 rows returned in 0.00 seconds

## Customer

insert into customer values(1001,'Ahsan','Dhamrai','ahsan@gmail.com',01 612111111,201);
insert into customer values(1002,'Hasan','Malibag','hasasn@gmail.com',01 612111112,202);
insert into customer values(1003,'Ashraf','Magbazar','ashraf@gmail.com',0 1612111113,203);
insert into customer values(1004,'Habib','Uttara','habib@gmail.com',01612 111114,204);
insert into customer values(1005,'shafi','Tongi','shafi@gmail.com',0161211 1115,205);

insert into customer values(1006,'Abdul','Banani','abdul@gmail.com',0161 2111116,206);
insert into customer values(1007,'Sayed','Mirpur11','sayed@gmail.com',01 612111117,207);
insert into customer values(1008,'Satya','Shyamoli','satya@gmail.com',016 12111118,208);
insert into customer values(1009,'Shyamol','Basundhara R/A','shyamol@gmail.com',01612111119,209);
insert into customer values(1010,'Nazmul','Gulshan','nazmul@gmail.com', 01612111110,210);

select * from customer



```
select * from customer;
```

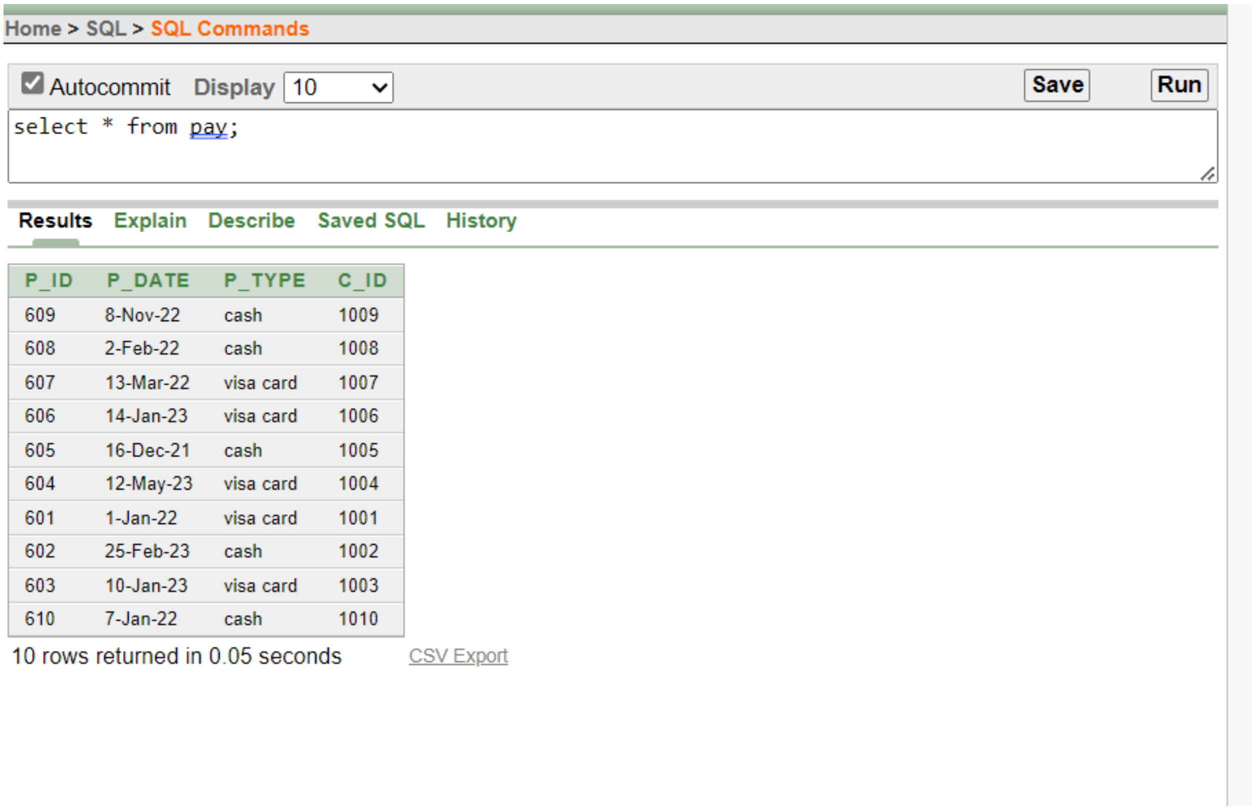
| C_ID | C_NAME | C_ADDRESS | C_EMAIL | PHONE | S_ID |
|---|---|---|---|---|---|
| 1001 | Ahsan | Dhamrai | ahsan@gmail.com | 1612111111 | 201 |
| 1002 | Hasan | Malibag | hasasn@gmail.com | 1612111112 | 202 |
| 1003 | Ashraf | Magbazar | ashraf@gmail.com | 1612111113 | 203 |
| 1004 | Habib | Uttara | habib@gmail.com | 1612111114 | 204 |
| 1005 | shafi | Tongi | shafi@gmail.com | 1612111115 | 205 |
| 1006 | Abdul | Banani | abdul@gmail.com | 1612111116 | 206 |
| 1007 | Sayed | Mirpur11 | sayed@gmail.com | 1612111117 | 207 |
| 1008 | Satya | Shyamoli | satya@gmail.com | 1612111118 | 208 |
| 1009 | Shyamol | Basundhara R/A | shyamol@gmail.com | 1612111119 | 209 |
| 1010 | Nazmul | Gulshan | nazmul@gmail.com | 1612111110 | 210 |

10 rows returned in 0.00 seconds

## Pay

```
insert into pay values(601,'1-Jan-22','visa
card',1001)
insert into pay values(602,'25-Feb-23','cash',1002)
insert into pay values(603,'10-Jan-23','visa
 card',1003)
 insert into pay values(604,'12-May-23','visa
 card',1004)
insert into pay values(605,'16-Dec-21','cash',1005)
insert into pay values(606,'14-Jan-23','visa
card',1006)
insert into pay values(607,'13-Mar-22','visa
card',1007)
insert into pay values(608,'2-Feb-22','cash',1008)
insert into pay values(609,'8-Nov-22','cash',1009)
insert into pay values(610,'7-Jan-22','cash',1010)

select * from pay
```



```
select * from pay;
```

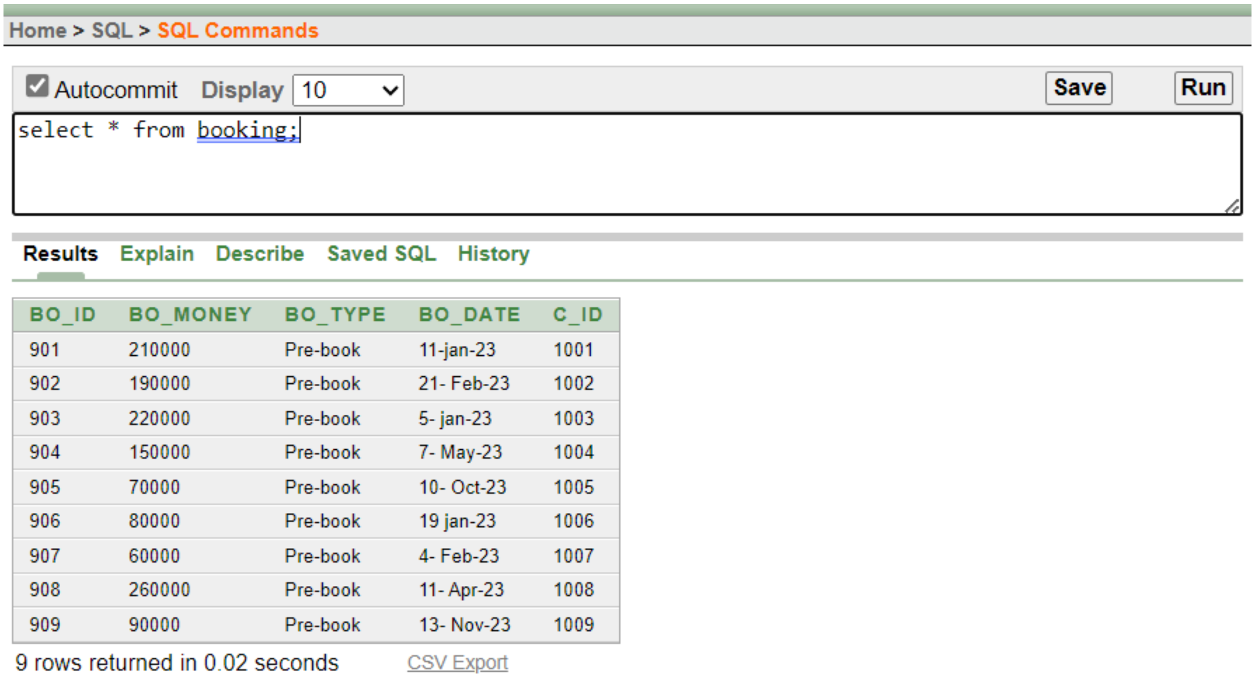
| P_ID | P_DATE | P_TYPE | C_ID |
|---|---|---|---|
| 609 | 8-Nov-22 | cash | 1009 |
| 608 | 2-Feb-22 | cash | 1008 |
| 607 | 13-Mar-22 | visa card | 1007 |
| 606 | 14-Jan-23 | visa card | 1006 |
| 605 | 16-Dec-21 | cash | 1005 |
| 604 | 12-May-23 | visa card | 1004 |
| 601 | 1-Jan-22 | visa card | 1001 |
| 602 | 25-Feb-23 | cash | 1002 |
| 603 | 10-Jan-23 | visa card | 1003 |
| 610 | 7-Jan-22 | cash | 1010 |

10 rows returned in 0.05 seconds

## Booking

```
insert into booking values (901,210000,'Pre-book','11- jan-23',1001)
 insert into booking values (902,190000,'Pre-book','21- Feb-23',1002)
insert into booking values (903,220000,'Pre-book','5- jan-23',1003)
insert into booking values (904,150000,'Pre-book','7- May-23',1004)
insert into booking values (905,70000,'Pre-book','10- Oct-23',1005)
insert into booking values (906,80000,'Pre-book','19 jan-23',1006)
insert into booking values (907,60000,'Pre-book','4- Feb-23',1007)
insert into booking values (908,260000,'Pre-book','11- Apr-23',1008)
insert into booking values (909,90000,'Pre-book','13- Nov-23',1009)

select * from booking
```



```
select * from booking;
```

| BO_ID | BO_MONEY | BO_TYPE | BO_DATE | C_ID |
|---|---|---|---|---|
| 901 | 210000 | Pre-book | 11-jan-23 | 1001 |
| 902 | 190000 | Pre-book | 21- Feb-23 | 1002 |
| 903 | 220000 | Pre-book | 5- jan-23 | 1003 |
| 904 | 150000 | Pre-book | 7- May-23 | 1004 |
| 905 | 70000 | Pre-book | 10- Oct-23 | 1005 |
| 906 | 80000 | Pre-book | 19 jan-23 | 1006 |
| 907 | 60000 | Pre-book | 4- Feb-23 | 1007 |
| 908 | 260000 | Pre-book | 11- Apr-23 | 1008 |
| 909 | 90000 | Pre-book | 13- Nov-23 | 1009 |

9 rows returned in 0.02 seconds

## Bike

insert into bike values (101,'R15','Yamaha','Black',525000,1001)

insert into bike values (102,'Rc','KTM','Black',475000,1002)

insert into bike values (103,'R15','Yamaha','Black',525000,1003)

insert into bike values (104,'GSXR','SUZUKI','Red',375000,1004)

insert into bike values (105,'MT15','Yamaha','Black',500000,1005)

insert into bike values (106,'R15','Yamaha','Black',525000,1006)

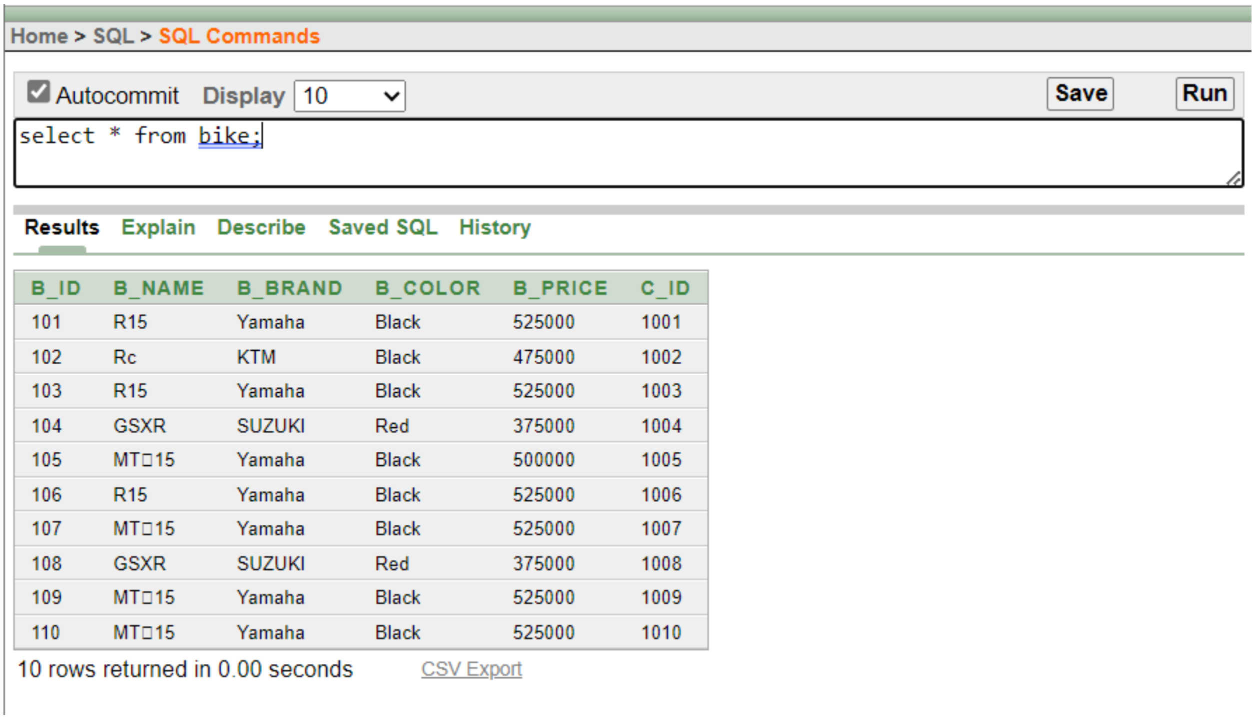
insert into bike values (107,'MT15','Yamaha','Black',525000,1007)

insert into bike values (108,'GSXR','SUZUKI','Red',375000,1008)

insert into bike values (109,'MT15','Yamaha','Black',525000,1009)

insert into bike values (110,'MT15','Yamaha','Black',525000,1010)

select * from bike;



```
select * from bike;
```

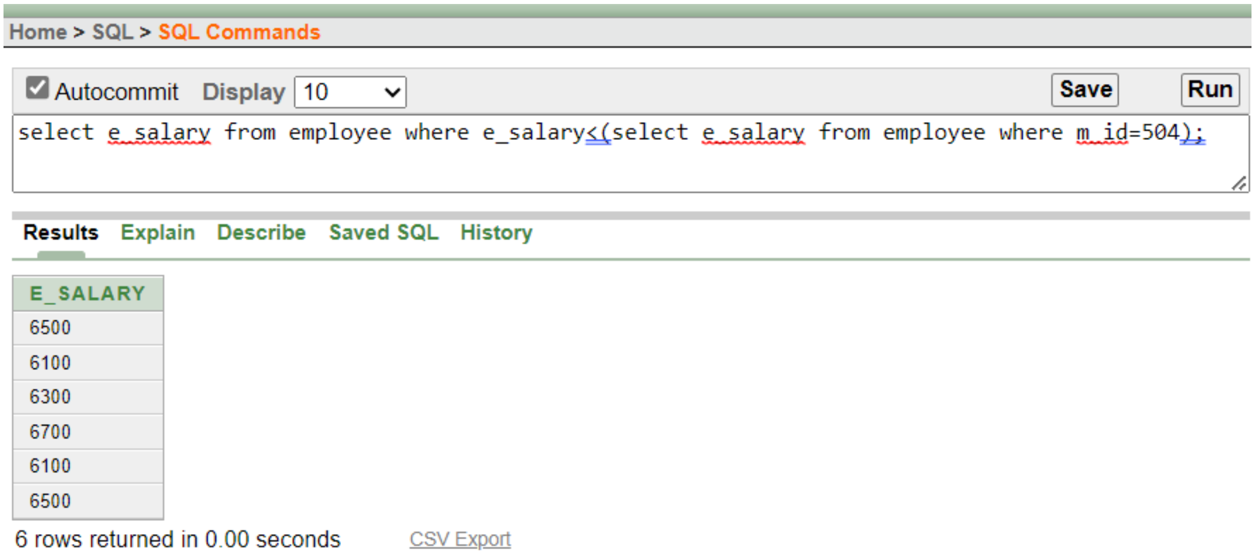
| B_ID | B_NAME | B_BRAND | B_COLOR | B_PRICE | C_ID |
|---|---|---|---|---|---|
| 101 | R15 | Yamaha | Black | 525000 | 1001 |
| 102 | Rc | KTM | Black | 475000 | 1002 |
| 103 | R15 | Yamaha | Black | 525000 | 1003 |
| 104 | GSXR | SUZUKI | Red | 375000 | 1004 |
| 105 | MT□15 | Yamaha | Black | 500000 | 1005 |
| 106 | R15 | Yamaha | Black | 525000 | 1006 |
| 107 | MT□15 | Yamaha | Black | 525000 | 1007 |
| 108 | GSXR | SUZUKI | Red | 375000 | 1008 |
| 109 | MT□15 | Yamaha | Black | 525000 | 1009 |
| 110 | MT□15 | Yamaha | Black | 525000 | 1010 |

10 rows returned in 0.00 seconds

# Query

1.Display salary for all employees whose salary is less than the manager_id=504;

select e_salary from employee where e_salary<(select e_salary from employee where m_id=504);



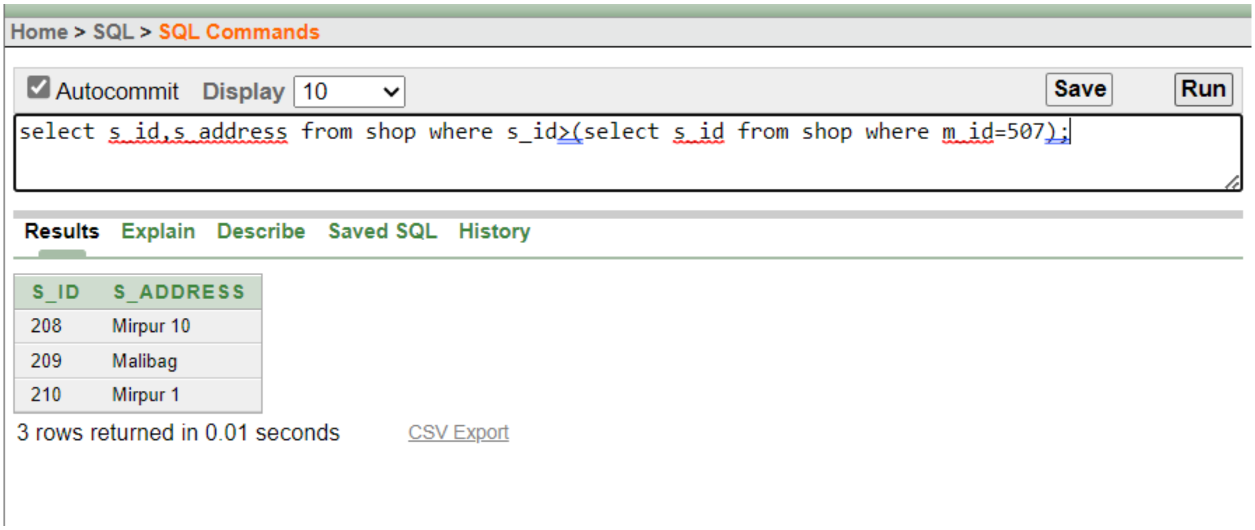
```
select e_salary from employee where e_salary<(select e_salary from employee where m_id=504);
```

| E_SALARY |
|---|
| 6500 |
| 6100 |
| 6300 |
| 6700 |
| 6100 |
| 6500 |

6 rows returned in 0.00 seconds

2.Display shop_id and address for all shop which shop id is greater than the manager_id=507;

select s_id,s_address from shop where s_id>(select s_id from shop where m_id=507);



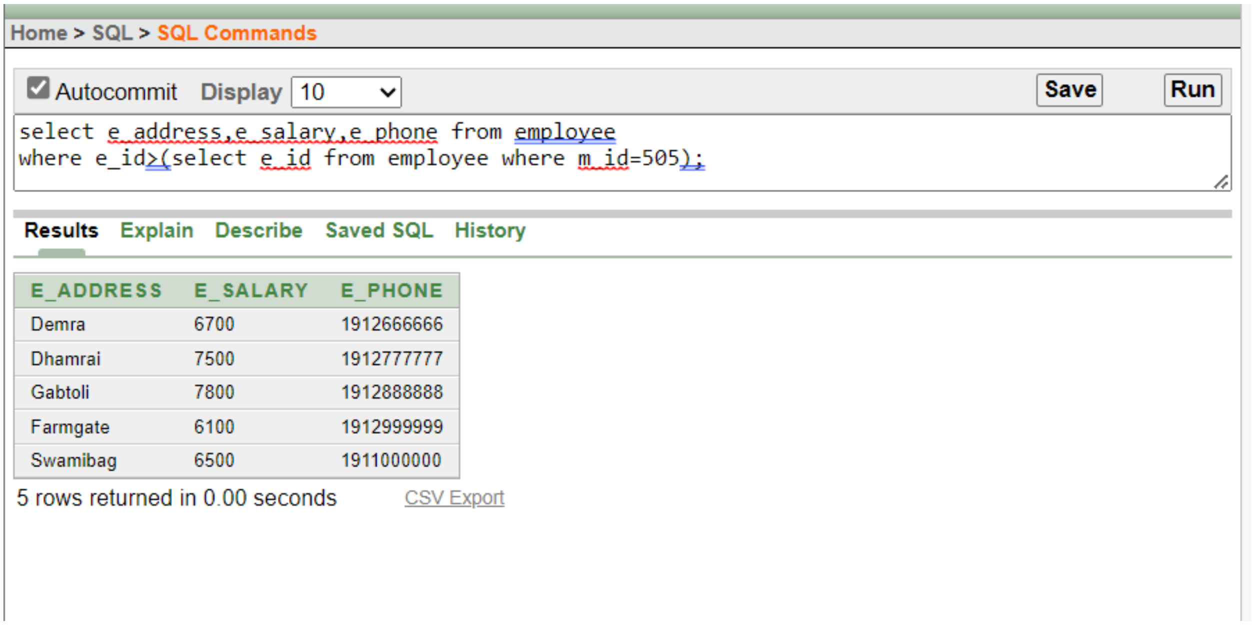
```
select s_id,s_address from shop where s_id>(select s_id from shop where m_id=507);
```

| S_ID | S_ADDRESS |
|---|---|
| 208 | Mirpur 10 |
| 209 | Malibag |
| 210 | Mirpur 1 |

3 rows returned in 0.01 seconds

3.Display address,salary,phone of all employees where employee id is greater than 505

select e_address,e_salary,e_phone from employee
where e_id>(select e_id from employee where m_id=505);



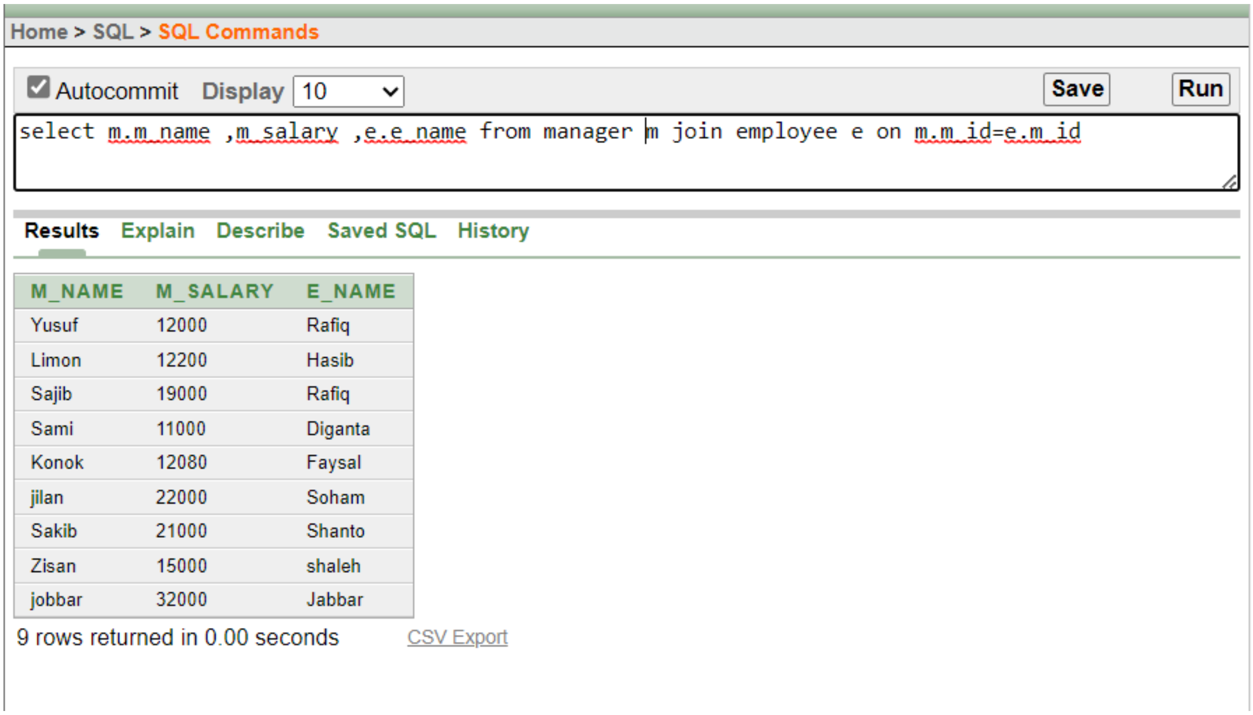
```
select e_address,e_salary,e_phone from employee
where e_id>(select e_id from employee where m_id=505);
```

| E_ADDRESS | E_SALARY | E_PHONE |
|---|---|---|
| Demra | 6700 | 1912666666 |
| Dhamrai | 7500 | 1912777777 |
| Gabtoli | 7800 | 1912888888 |
| Farmgate | 6100 | 1912999999 |
| Swamibag | 6500 | 1911000000 |

5 rows returned in 0.00 seconds

1.
Find the names of manager and salary along with their corresponding employee names.

select m.m_name ,m_salary ,e.e_name from manager m join employee e on m.m_id=e.m_id



```
select m.m_name ,m_salary ,e.e_name from manager m join employee e on m.m_id=e.m_id
```

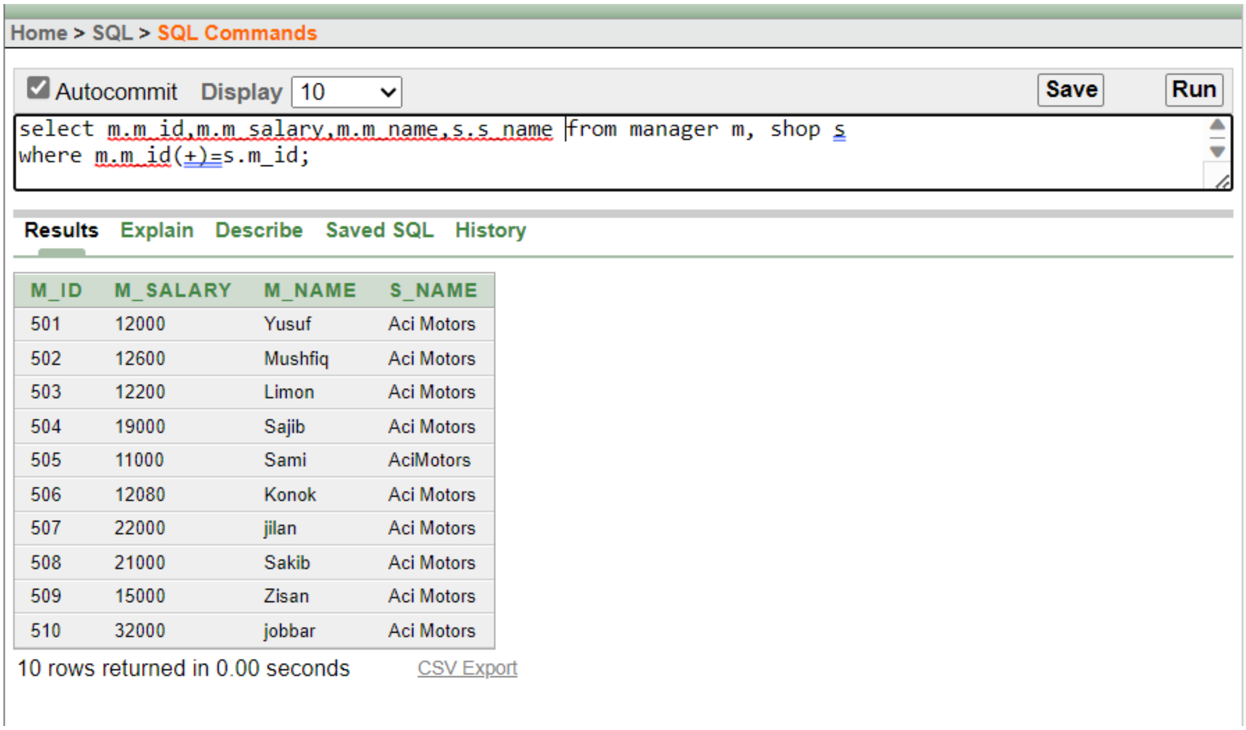
| M_NAME | M_SALARY | E_NAME |
|---|---|---|
| Yusuf | 12000 | Rafiq |
| Limon | 12200 | Hasib |
| Sajib | 19000 | Rafiq |
| Sami | 11000 | Diganta |
| Konok | 12080 | Faysal |
| jilan | 22000 | Soham |
| Sakib | 21000 | Shanto |
| Zisan | 15000 | shaleh |
| jobbar | 32000 | Jabbar |

9 rows returned in 0.00 seconds

2.

left outer join Display manager id, salary,employee name, shop name if there is manager assigned in a shop.if the manager not assigned in any shop the make that shop name NULL:

select m.m_id,m.m_salary,m.m_name,s.s_name from manager m, shop s
where m.m_id(+)=s.m_id;



```
select m.m_id,m.m_salary,m.m_name,s.s_name from manager m, shop s
where m.m_id(+)=s.m_id;
```

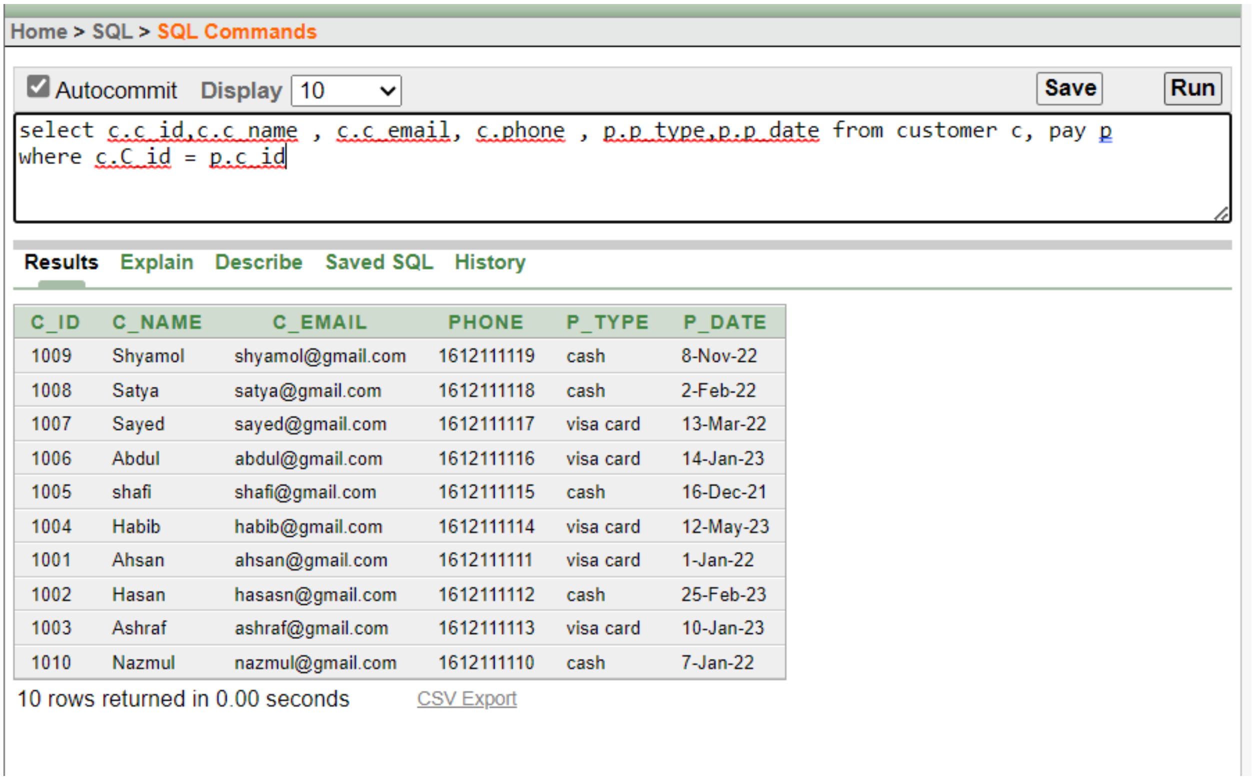
| M_ID | M_SALARY | M_NAME | S_NAME |
|---|---|---|---|
| 501 | 12000 | Yusuf | Aci Motors |
| 502 | 12600 | Mushfiq | Aci Motors |
| 503 | 12200 | Limon | Aci Motors |
| 504 | 19000 | Sajib | Aci Motors |
| 505 | 11000 | Sami | AciMotors |
| 506 | 12080 | Konok | Aci Motors |
| 507 | 22000 | jilan | Aci Motors |
| 508 | 21000 | Sakib | Aci Motors |
| 509 | 15000 | Zisan | Aci Motors |
| 510 | 32000 | jobbar | Aci Motors |

10 rows returned in 0.00 seconds

3.

right outer join Display the information of customers who have made payments along with their corresponding payment details

select c.c_id,c.c_name , c.c_email, c.phone , p.p_type,p.p_date from customer c, pay p
where c.C_id = p.c_id



```
select c.c_id,c.c_name , c.c_email, c.phone , p.p_type,p.p_date from customer c, pay p
where c.C_id = p.c_id
```

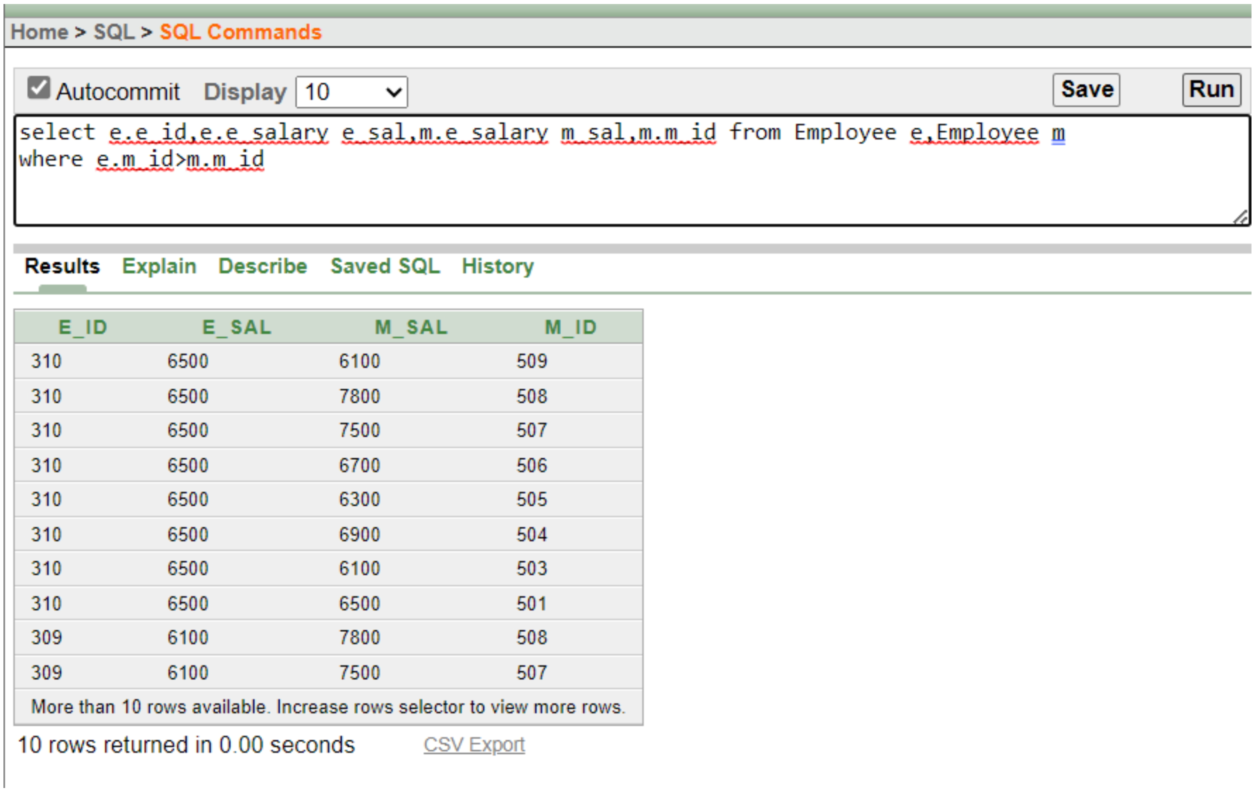
| C_ID | C_NAME | C_EMAIL | PHONE | P_TYPE | P_DATE |
|---|---|---|---|---|---|
| 1009 | Shyamol | shyamol@gmail.com | 1612111119 | cash | 8-Nov-22 |
| 1008 | Satya | satya@gmail.com | 1612111118 | cash | 2-Feb-22 |
| 1007 | Sayed | sayed@gmail.com | 1612111117 | visa card | 13-Mar-22 |
| 1006 | Abdul | abdul@gmail.com | 1612111116 | visa card | 14-Jan-23 |
| 1005 | shafi | shafi@gmail.com | 1612111115 | cash | 16-Dec-21 |
| 1004 | Habib | habib@gmail.com | 1612111114 | visa card | 12-May-23 |
| 1001 | Ahsan | ahsan@gmail.com | 1612111111 | visa card | 1-Jan-22 |
| 1002 | Hasan | hasasn@gmail.com | 1612111112 | cash | 25-Feb-23 |
| 1003 | Ashraf | ashraf@gmail.com | 1612111113 | visa card | 10-Jan-23 |
| 1010 | Nazmul | nazmul@gmail.com | 1612111110 | cash | 7-Jan-22 |

10 rows returned in 0.00 seconds

4.

Self_joining Display the employee_id,salary of the employees whose salary are more than their manager salary

select e.e_id,e.e_salary e_sal,m.e_salary m_sal,m.m_id from Employee e,Employee m
where e.m_id>m.m_id


Home > SQL > SQL Commands
☑ Autocommit Display 10
Save
Run
Results Explain Describe Saved SQL History

```
select e.e_id,e.e_salary e_sal,m.e_salary m_sal,m.m_id from Employee e,Employee m
where e.m_id>m.m_id
```

| E_ID | E_SAL | M_SAL | M_ID |
|---|---|---|---|
| 310 | 6500 | 6100 | 509 |
| 310 | 6500 | 7800 | 508 |
| 310 | 6500 | 7500 | 507 |
| 310 | 6500 | 6700 | 506 |
| 310 | 6500 | 6300 | 505 |
| 310 | 6500 | 6900 | 504 |
| 310 | 6500 | 6100 | 503 |
| 310 | 6500 | 6500 | 501 |
| 309 | 6100 | 7800 | 508 |
| 309 | 6100 | 7500 | 507 |

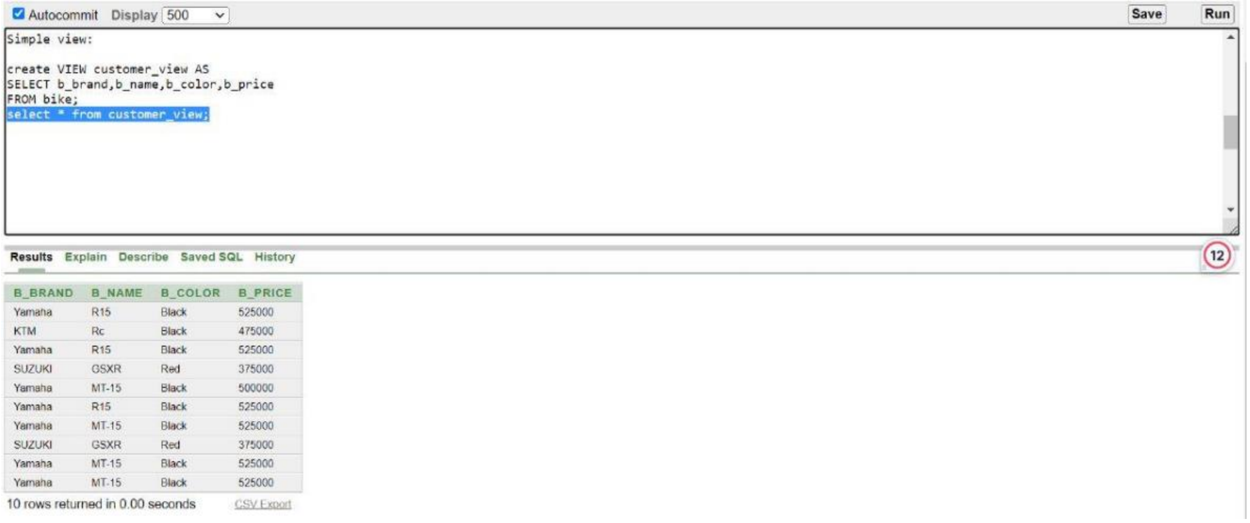
More than 10 rows available. Increase rows selector to view more rows.

10 rows returned in 0.00 seconds CSV Export

**View:**

create VIEW customer_view AS SELECT b_brand,b_name,b_color,b_price FROM bike;

select * from customer_view;



```
Simple view:

create VIEW customer_view AS
SELECT b_brand,b_name,b_color,b_price
FROM bike;
select * from customer_view;
```

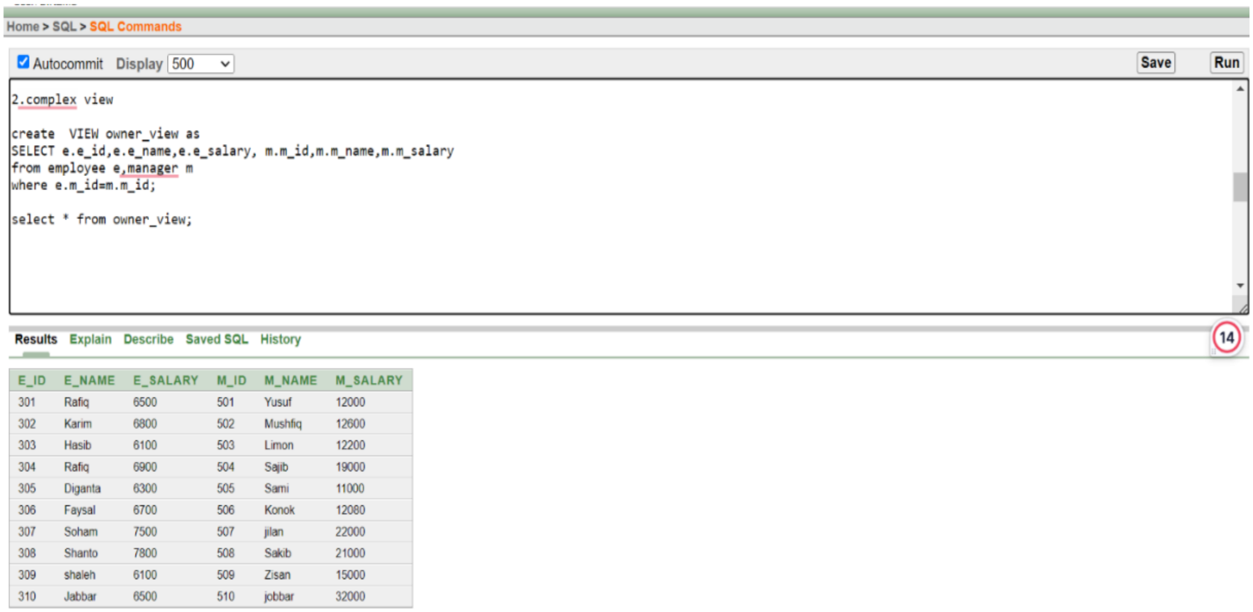
| B_BRAND | B_NAME | B_COLOR | B_PRICE |
|---|---|---|---|
| Yamaha | R15 | Black | 525000 |
| KTM | Rc | Black | 475000 |
| Yamaha | R15 | Black | 525000 |
| SUZUKI | GSXR | Red | 375000 |
| Yamaha | MT-15 | Black | 500000 |
| Yamaha | R15 | Black | 525000 |
| Yamaha | MT-15 | Black | 525000 |
| SUZUKI | GSXR | Red | 375000 |
| Yamaha | MT-15 | Black | 525000 |
| Yamaha | MT-15 | Black | 525000 |

10 rows returned in 0.00 seconds CSV Export

**complex view**

create VIEW owner_view as SELECT e.e_id,e.e_name,e.e_salary, m.m_id,m.m_name,m.m_salary from employee e,manager m where e.m_id=m.m_id;

select * from owner_view



```
2.complex view

create  VIEW owner_view as
SELECT e.e_id,e.e_name,e.e_salary, m.m_id,m.m_name,m.m_salary
from employee e,manager m
where e.m_id=m.m_id;

select * from owner_view;
```

| E_ID | E_NAME | E_SALARY | M_ID | M_NAME | M_SALARY |
|---|---|---|---|---|---|
| 301 | Rafiq | 6500 | 501 | Yusuf | 12000 |
| 302 | Karim | 6800 | 502 | Mushfiq | 12600 |
| 303 | Hasib | 6100 | 503 | Limon | 12200 |
| 304 | Rafiq | 6900 | 504 | Sajib | 19000 |
| 305 | Diganta | 6300 | 505 | Sami | 11000 |
| 306 | Faysal | 6700 | 506 | Konok | 12080 |
| 307 | Soham | 7500 | 507 | jilan | 22000 |
| 308 | Shanto | 7800 | 508 | Sakib | 21000 |
| 309 | shaleh | 6100 | 509 | Zisan | 15000 |
| 310 | Jabbar | 6500 | 510 | jobbar | 32000 |

## Conclusion:

In summary, the Bikeshop Management System will serve as a central hub for the storage and management of data relating to the owner, manager, staff, customers, booking systems, and shop information. The system will enable users to generate payment slips, search and filter data, pre-book, appoint staff, create, update, and delete records as required. This project will be implemented with Oracle 10g Express edition.