Shaheed Zulfikar Ali Bhutto Institute of Science & Technology

COMPUTER SCIENCE DEPARTMENT

Total Marks: _____

Obtained Marks: _____

Database System (Lab)

Final Project

Submitted To: **Mr. Hamza Imran**

Student Name: **Farooq Ahmed Khan, Ahmed Raza, Adnan Karim**

Reg. Number: **2012302, 2012101, 1912219**

INTRODUCTION

Real Estate Management System Database

Real Estate Management System project entitled the online platform that will allow the real estate agents to post and advertise their real estate properties. Clients and customers are allowed to browse and inquire the different real estate properties posted on the platform. This article focuses on the database design and model in order to develop a real estate management system.

Buyer mostly contacts the dealer when they need a house or flat and dealer charge from them and the same issue has for seller also. To overcome this problem, we build this project. The System seeks to address the issues facing the current Real Estate Property Management, in several ways, thereby so many limitations with the current system. The system is meant to help the agents be able to manage and maintain houses remotely with Minimal Supervision. The residents and The Property-owner have Portals where they can access/view progress they have made with the agents.

Relationships Used

- **One to One**
- **One to Many**
- **Many to One**
- **Many to Many**

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ENTITIES

Employee: This entity manages all the sales office work. It contains one to many relationships with sales office. It also contains two attributes which are Emp_name and Emp_id, Employee Contact.

Sales Office: sales office contains a single list which contains multiple properties, so we can say that sales office has one to many relationships with properties. It has two attributes which are Off_location and Off_number, Branch.

Property: Every Owner can have more than one property. So, it has one to many relationships with property. It has two attributes which are Prop_location and Prop_ID, City, Zipcode, State. We will make Prop_ID as Primary key.

Owner: It has two attributes which are owner_name and owner_ID, and owner Contact. Its Primary key is set as owner_ID. Owner want to sell property.

Owns: It's the owner properties description which he owns.

Property List: Listing of the properties which are up for sale.

Client: Buyer comes to buy property.

Area: Property description by sq. feet.

CLAUSES USED

SELECT
WHERE
AND
BETWEEN
IN
LIKE
GROUP BY
HAVING
COUNT

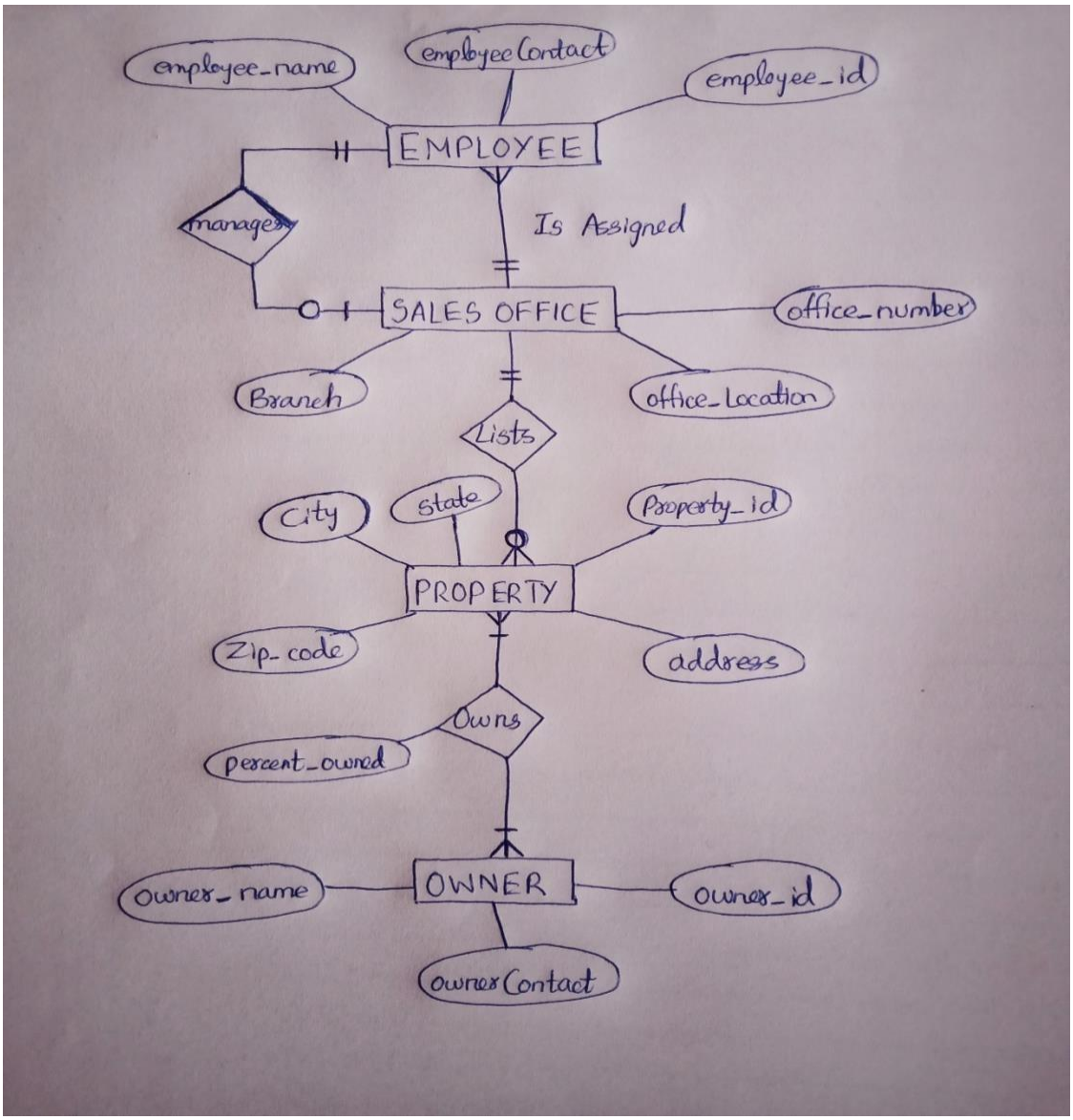
SUBQUERIES USED

INSERT, UPDATE, DELETE, SELECT

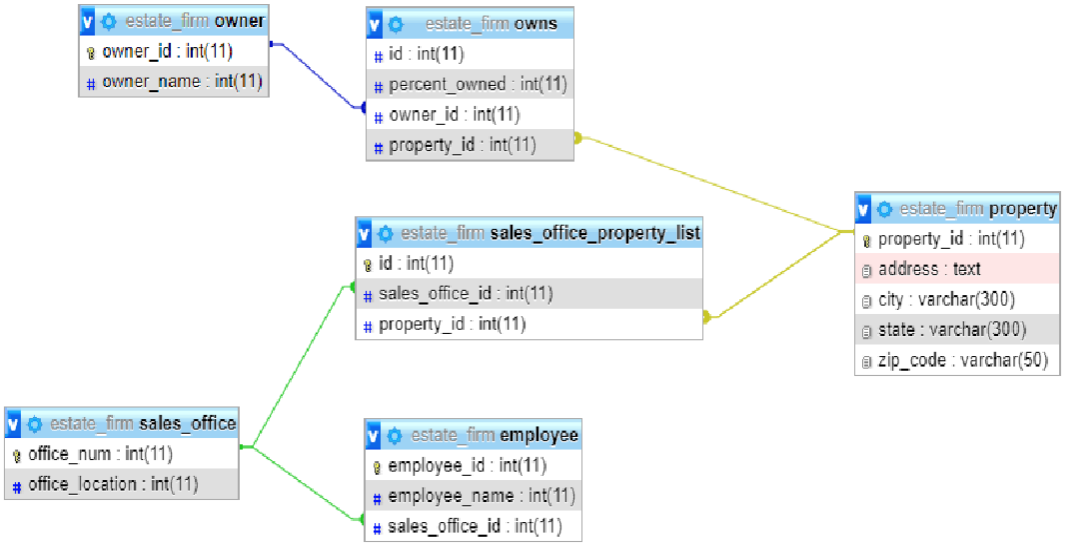
JOINS USED

Natural Join
Self-Join
Inner Join

ER Diagram


employee_name
employee Contact
employee_id
EMPLOYEE
manages
Is Assigned
SALES OFFICE
office_number
Branch
office_Location
Lists
City
state
Property_id
PROPERTY
Zip_code
address
Owns
percent_owned
OWNER
owner_name
owner_id
owner Contact

Relational Model Diagram



QUERIES

```
CREATE TABLE
  employee (
  employee_id
  INT,
  employee_name
  VARCHAR(50),
  salesoffice_id
  INT,
  employeeContac
  t INT, Primary
  key(employee_i
  d)
);

INSERT INTO employee
VALUES(1,'Saim',100,123456789); INSERT INTO
employee VALUES(2,'Faizyab',101,987654321);
INSERT INTO employee
VALUES(3,'Usman',102,123459876); INSERT INTO
employee VALUES(4,'Imran',103,543216789);

CREATE TABLE
  P_owner(
  owner_id
  INT,
  owner_name
  VARCHAR(50)
  ,
  ownerContac
  t INT,
  Primary
  key(owner_i
  d)
    );

INSERT INTO P_owner
VALUES(10,'Mohsin',12345); INSERT
INTO P_owner
VALUES(11,'Faisal',12345); INSERT
INTO P_owner VALUES(12,'Ali',12345);
INSERT INTO P_owner
VALUES(13,'Zain',12345);

CREATE TABLE Own(
  id INT,
  percent_
```

```
    owned
    INT,
    Own_Location
    VARCHAR(30),
    Primary
    key(id),
    owner_id INT references P_owner(owner_id)
);

INSERT INTO Own
VALUES(111,60,'Rawalpindi',10);
INSERT INTO Own
VALUES(222,80,'Islamabad',11); INSERT
INTO Own VALUES(333,95,'Lahore',12);
INSERT INTO Own
VALUES(444,65,'Sialkot',13);

CREATE TABLE
  property1 (
  property_id
  INT,
  address
  VARCHAR(50)
  , city
  VARCHAR(100
  ), state
  VARCHAR(100
  ),
  zip_code INT,
  Primary key(property_id)
);

INSERT INTO property1 VALUES(1111,'Gulshan-e-
Iqbal','Karachi','Sindh',74000); INSERT INTO property1
VALUES(1122,'G-11','Islamabad','Punjab',44000);
INSERT INTO property1
VALUES(1133,'Defence','Islamabad','Punjab',45730); INSERT INTO
property1 VALUES(1144,'Johar town','Lahore','Punjab',54782);
INSERT INTO property1 VALUES(1155,'Jinnah
town','Quetta','Balochistan',87312); INSERT INTO property1
VALUES(1166,'Hayatabad','Peshawar','KPK',25100);
INSERT INTO property1 VALUES(1177,'Charbagh','Swabi','KPK',23431);

CREATE TABLE
  sales_office (
  office_num INT,
  office_location
  VARCHAR(100),
  Branch
```

```
    VARCHAR(50),
    Primary key(office_num)
);
        INSERT INTO sales_office VALUES(0510000,'ISB','F-7');
INSERT INTO sales_office VALUES(0511111,'LHR','Johar
town'); INSERT INTO sales_office
VALUES(0512222,'KAR','Gulshan-e-Iqbal'); INSERT INTO
sales_office VALUES(0513333,'PES','hayatabad');

CREATE TABLE
  sales_office_property_list(
  id INT,
  sales_office_i
  d INT, Primary
  key(id),
  property_id INT references property1(property_id)
);

INSERT       INTO       sales_office_property_list
VALUES(001,2211,1111);         INSERT         INTO
sales_office_property_list  VALUES(002,0011,1122);
INSERT       INTO       sales_office_property_list
VALUES(003,6611,1133);         INSERT         INTO
sales_office_property_list  VALUES(004,9911,1144);
INSERT       INTO       sales_office_property_list
VALUES(005,2299,1155);         INSERT         INTO
sales_office_property_list  VALUES(006,2233,1166);
INSERT       INTO       sales_office_property_list
VALUES(007,2200,1177);



SELECT employee_id, employee_name
FROM employee WHERE employee_id=2 AND
employee_name='saim';

SELECT * FROM employee
WHERE employee_name LIKE 'F%';


UPDATE P_owner
SET
owner_name
='Imran'
WHERE
owner_id =
10; SELECT
* FROM
P_owner
```

```
UPDATE
employ
ee SET
employ
ee_id=
5
WHERE employee_id IN
(SELECT MIN(employee_id) FROM employee);


DELETE FROM sales_office_property_list WHERE

id=001; SELECT COUNT(property_id)
 FROM property1;
         SELECT employee.employee_id,
Own.Own_Location FROM employee
INNER JOIN Own ON employee.employee_id = Own.Own_Location;

SELECT employee_name FROM
employee UNION
SELECT office_location FROM sales_office

ALTER
TABLE
employee
ADD Email
VARCHAR(50
);
SELECT *FROM employee

SELECT
COUNT(employee_i
d) FROM employee
GROUP BY
salesoffice_id
HAVING
MAX(employee_id)
> 2;

SELECT COUNT(percent_owned) AS
SmallestPercent FROM Own;

SELECT * FROM
sales_office_property_list WHERE
sales_office_id BETWEEN 2211 AND
2200;
```

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OUTPUTS

SELECT:

Results | Messages

	employee_id	employee_name
1	1	Saim
2	2	Faizyab
3	3	Usman
4	4	Imran

LIKE:

Results | Messages

	employee_id	employee_name	salesoffice_id	employeeContact
1	2	Faizyab	101	987654321

UPDATE:

```
UPDATE employee
SET employee_id=5
WHERE employee_id IN
(SELECT MIN(employee_id) FROM employee);
```

00 %

Messages

```
(1 row affected)

Completion time: 2022-01-18T23:35:29.5066347+05:00
```

DELETE:

```
DELETE FROM sales_office_property_list WHERE id=001;
```

Messages

```
(1 row affected)

Completion time: 2022-01-18T23:36:05.6490511+05:00
```

COUNT:

Results Messages

	(No column name)
1	7

UNION:

Results Messages

	employee_name
1	Faizyab
2	Imran
3	ISB
4	KAR
5	LHR
6	PES
7	Saim
8	Usman

ALTER:

```
ALTER TABLE employee
ADD Email VARCHAR(50);
SELECT *FROM employee
```

100 %

Results | Messages

	employee_id	employee_name	salesoffice_id	employeeContact	Email
1	2	Faizyab	101	987654321	NULL
2	3	Usman	102	123459876	NULL
3	4	Imran	103	543216789	NULL
4	5	Saim	100	123456789	NULL

HAVING/GROUP-BY:

```
SELECT COUNT(employee_id)
FROM employee
GROUP BY salesoffice_id
HAVING MAX(employee_id) > 2;
```

100 %

Results | Messages

	(No column name)
1	1
2	1
3	1

COUNT:

```
SELECT COUNT(percent_owned) AS SmallestPercent
FROM Own;
```

100 %

Results | Messages

	SmallestPercent
1	4

BETWEEN & AND:

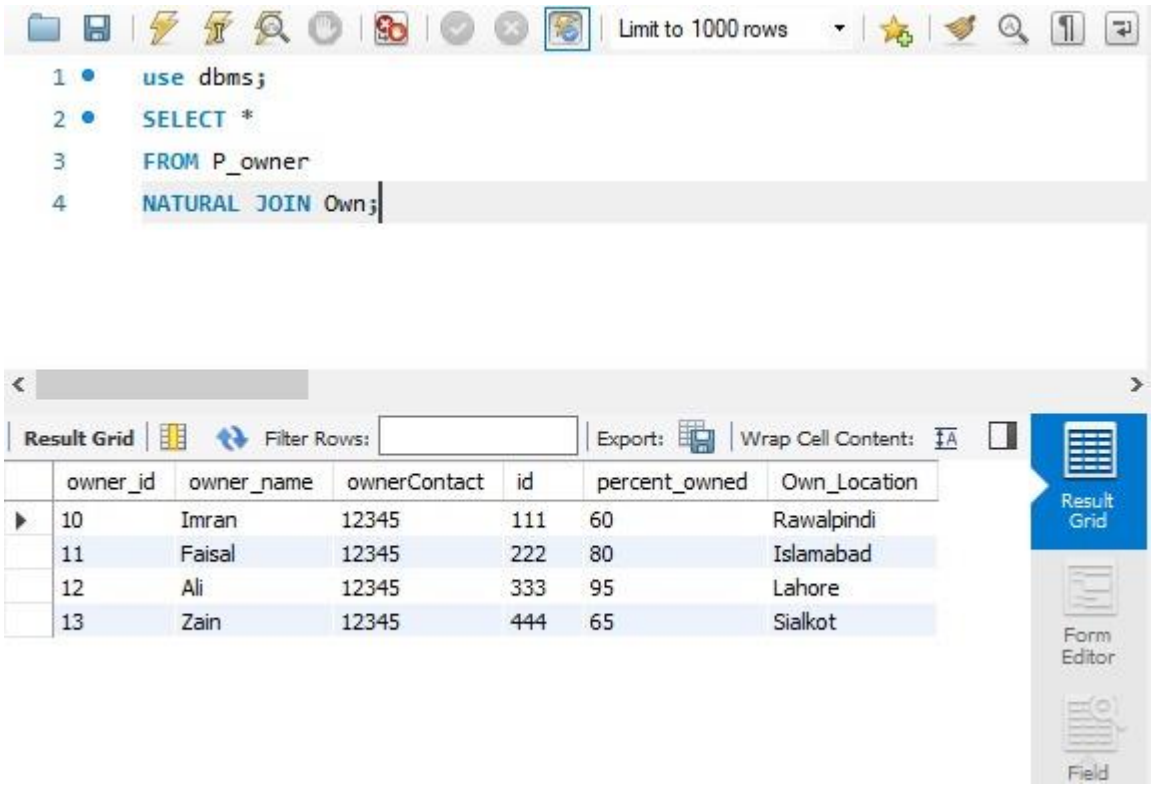
```
SELECT * FROM sales_office_property_list
WHERE sales_office_id BETWEEN 2211 AND 2200
```

100 %

Results | Messages

	id	sales_office_id	property_id
1	2	11	1122
2	3	6611	1133
3	4	9911	1144
4	5	2299	1155
5	6	2233	1166

NATURAL JOIN:



```
use dbms;
SELECT *
FROM P_owner
NATURAL JOIN Own;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

owner_id	owner_name	ownerContact	id	percent_owned	Own_Location
10	Imran	12345	111	60	Rawalpindi
11	Faisal	12345	222	80	Islamabad
12	Ali	12345	333	95	Lahore
13	Zain	12345	444	65	Sialkot