**Imdad ullah FA18 BSE 106**

create database DreamHome

use DreamHome

create table Branch (branchNo varchar(20) NOT NULL Primary Key, street varchar(100) NOT NULL, city varchar(50) NOT NULL,

postcode varchar(20) NOT NULL);

create table Staff (staffNo varchar(20) NOT NULL PRIMARY KEY, fName varchar(50) NOT NULL, lName varchar(50) NOT NULL,

position varchar(50) NOT NULL, sex varchar(1) NOT NULL, DOB DateTime NOT NULL, salary DECIMAL NOT NULL,

branchNo varchar(20) NOT NULL References Branch(branchNo));

create table Client (clientNo varchar(20) NOT NULL PRIMARY KEY, fName varchar(50) NOT NULL, lName varchar(50) NOT NULL,

telNo varchar(20) NOT NULL, prefType varchar(50) NOT NULL, maxRent DECIMAL NOT NULL)

create table PrivateOwner (ownerNo varchar(20) NOT NULL PRIMARY KEY, fName varchar(50) NOT NULL, lName varchar(50) NOT NULL,

[address] varchar(50) NOT NULL, telNo varchar(20) NOT NULL)

create table PropertyForRent (propertyNo varchar(20) NOT NULL PRIMARY KEY, street varchar(100) NOT NULL, city varchar(50) NOT NULL,

postcode varchar(20) NOT NULL, type varchar(10) NOT NULL, rooms int NOT NULL, rent DECIMAL NOT NULL,

ownerNo varchar(20) References PrivateOwner(ownerNo), staffNo varchar(20) NOT NULL References Staff(staffNo),

branchNo varchar(20) NOT NULL References Branch(branchNo));

create table Viewing (clientNo varchar(20) NOT NULL References Client(clientNo),

propertyNo varchar(20) NOT NULL References PropertyForRent(propertyNo), viewDate DateTime NOT NULL, comment varchar(200) NOT NULL)

create table Registration(clientNo varchar(20) NOT NULL References Client(clientNo),

branchNo varchar(20) NOT NULL References Branch(branchNo),staffNo varchar(20) NOT NULL References Staff(staffNo),dateJoined DateTime NOT NULL)

INSERT into Branch (branchNo, street, city, postcode)

VALUES

('bb1','6 Street Town', 'peshawar','1100'),

('bb2', '8 Block', 'chd', '4000'),

('bb3', '5 Street atd', 'csd', '100'),

('bb4','10 Block', 'psh', '500'),

insert into Staff (staffNo, fName, lName, position, sex, DOB, salary, branchNo)

VALUES ('AD01', 'imdad', 'khan', 'manager', 'M', ‘13-01-1999’), ‘8000’, 'B001'),

('AD02', 'khan', 'asad', 'Manager', 'M',12-5-1998 'A002'),

('AD03', 'jamal', 'khan', 'Assistant', 'M',’4-2-1996’,’6000’, 'A003'),

('AD04', 'asim', 'khan', 'Assistant', 'M', ‘12-01-1999',A004'),

insert into client (clientNo, fName, lName, telNo, prefType, maxRent)

values ('bb001', 'Muhammad', ‘ali', '0341-3487431', 'Apartment', '460000'),

('bb005', 'imdad', 'Aslam', '0320-3493', 'House', '3000'),

('bb006', 'Touqeef', 'Khan', '0312-886818', 'Room', '6000'),

('bb007', 'Haseeb', 'Khan', '0300-8882713', 'Room', '14040'),

('bb008', 'Sharjeel', 'Khan', '0344-9992399', 'House', '32000'),

insert into privateowner (ownerNo, fName, lName, address, telNO)

values('AD0001','Huzaifa','Abid','G-13', '0331-1876786543'),

('bb0005','Ashiq','Niazi','I#850 Supply bazar', '0344-876767466'),

('bb0006','Shan','Shahd','I#969 Supply', '0324-28678767538'),

('bb0007','Hanzala','Maqsood','I#95 wah Cantt', '0314-654543672'),

('bb0008','Ahmed','Ali','I#505 Khanpur', '0304-565654231'),

insert into propertyforrent ( propertyNo, street, city, postcode, type, rooms, rent, ownerNo, staffNo, branchNo)

values ('AD101','I#38 G-13', 'ISB','8092','Room','1','12000','13456','AD01','AD1'),

('AD102','I#78 Mandia', 'ABT','1278','Apartment','2','10000','19283','AD02','AD2'),

('AD103','I#85 Mirpur', 'ISB','3987','Aparment','3','14000','23456','AD03','AD3'),

('AD104','I#12 Cantt', 'ABT','2576','Room','1','8000','87362','AD04','AD4'),

('AD105','I#78 Mandia', 'ISB','9087','Apartment','2','10000','12098','AD05','AD5'),

('AD106','I#55 Kalapul', 'ABT','1265','Apartment','3','15000','90876','AD06','AD6'),

('AD107','I#12 Cantt', 'ABT','3489','Apartment','4','18000','78635','AD07','AD7'),

('AD108','I#86 Supply', 'ISB','1265','House','4','24000','17865','AD08','AD8'),

('AD109','I#38 G-13', 'ISB','9087','House','3','22000','87268','AD09','AD9'),

('AD1010','I#86 Supply', 'ABT','5431','Apartment','2','14000','AD10','SR68','AD10');

insert into registration ( clientNo, branchNo,staffNo ,dateJoined )

values ('AD1101','AD1','AD01','1999/12/24'),

(''AD1102','AD2','AD02','1991/11/18'),

(''AD1103','AD3','AD03','1994/04/12'),

(''AD1104','AD4','AD04','1989/01/07'),

(''AD1105','AD5','AD05','1995/07/29'),

(''AD1106','AD6','AD06','2000/08/19'),

(''AD1107','AD7','AD07','1996/11/01'),

(''AD1108','AD8','AD08','1986/04/12'),

(''AD1109','AD9','AD09','1990/10/05'),

(''AD11010','AD10','AD10','1990/05/14');

insert into viewing(clientNo, propertyNo, viewDate, comment)

values('AD001','A110','2000/05/14','GOOD'),

('AD002','B110','2001/11/21','GOOD'),

('AD003','A111','2001/04/04','GOOD'),

('AD004','C065','2000/01/01','GOOD'),

('AD005','D124','2004/06/19','GOOD'),

('AD006','G116','1999/08/02','GOOD'),

('AD007','A140','2005/07/09','GOOD'),

('AD008','H180','2000/02/26','GOOD'),

('AD009','A230','1997/10/12','GOOD'),

('AD0010','B210','2003/12/24','GOOD');

Select distinct(city) from Branch order by city desc;

### **LAB Number 7:**

Print the list of postcode without any repetition

Solution:

Select distinct(postcode) from Branch;

Print all fName from Staff without repetition

Solution:

SELECT distinct(fName) FROM Staff;

List all staff with renaming all its columns in results

Solution:

Select staffNo As MyStaffNo, fName As MyFirstName, lName As MyLastName, position As MyPosition, DOB As MYDOB, salary As MySalary, branchNo As MyBranchNO from Staff;

List all clients with re-naming all its columns to synonyms.

Solution:

Select clientNo As clientId, fName As firstName, lName As lastName, telNo As contactNo, prefType As priorityType, maxRent As totalRent from Client;

List all staff with a salary greater than 10,000.

Solution:

SELECT \* FROM Staff WHERE salary > 10000;

List all managers and supervisors.

Solution:

SELECT \* FROM Staff WHERE position = 'manager' OR position = 'supervisor';

### **Lab Number 8:**

Perform all the examples in this lab.

Solution:

SELECT staffNo, fName, lName, salary FROM Staff ORDER BY salary DESC;

SELECT propertyNo, type, rooms, rent FROM PropertyForRent ORDER BY type;

SELECT propertyNo, type, rooms, rent FROM PropertyForRent ORDER BY type, rent DESC;

SELECT COUNT(DISTINCT propertyNo) AS myCount FROM Viewing WHERE viewDate BETWEEN '1-May-04' AND '31-May-04';

SELECT COUNT(staffNo) AS myCount, SUM(salary) AS mySum FROM Staff WHERE position = 'Manager';

SELECT MIN(salary) AS myMin, MAX(salary) AS myMax, AVG(salary) AS myAvg FROM Staff;

SELECT staffNo, COUNT(salary) FROM Staff; --shwoing error that no aggregate or group clause

SELECT staffNo, fName, lName, position, salary FROM Staff WHERE salary > SOME (SELECT salary FROM Staff WHERE branchNo = 'B003');

SELECT staffNo, fName, lName, position, salary FROM Staff WHERE salary > ALL (SELECT salary FROM Staff WHERE branchNo = 'B003');

For DreamHome case study write at least 3 examples of each category for sorting, grouping and aggregate operations. Share your exercises as advised in the lab.

Sorting clauses

Solution:

SELECT staffNo, fName, lName, position FROM Staff ORDER BY fName ASC;

SELECT staffNo, fName, position, salary FROM Staff ORDER BY salary DESC;

SELECT fName, salary FROM Staff ORDER BY lName DESC;

Grouping clauses

Solution:

SELECT staffNo, fName, sex, salary FROM Staff WHERE position = 'Assistant' AND salary < 10000;

SELECT fName, position FROM Staff WHERE sex = 'M' AND position = 'Manager';

SELECT fName, lName, position FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;

Aggregateclauses

Solution:

SELECT COUNT(DISTINCT(propertyNo)) AS myCount FROM Viewing WHERE viewDate BETWEEN '10-May-2000' AND '3-june-04';

SELECT clientNo, propertyNo AS ClientID, PropertyNo FROM Viewing WHERE viewDate BETWEEN '10-May-2000' AND '3-june-04';

SELECT clientNo, comment FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-04';

### **Lab Number 9:**

select fName, lName, salary from staff where salary > (select salary from staff where lName = 'Bleech');

select first\_name, last\_name from employees where department = ‘IT’;

### **Lab Number 10:**

Select first\_name, last\_name from employees where position = ‘manager’;

Select first\_name, last\_name, salary from employees where salary > (select AVG(salary) from employees);

SELECT first\_name, last\_name, salary from employees where department\_name = 'IT' AND salary > (select AVG(salary) from employees);

select first\_name, last\_name, salary from employees where salary > (select salary from employees where last\_name = 'khan');

Select \* from employees where salary = (select min(salary) from employees);

Select first\_name, last\_name, salary from employees where salary > (select avg(salary) from employees);

select first\_name,last\_name, salary from employees where salary > (select salary from employees where job\_id = 'SH\_CLERK') order by salary;

Select first\_name, last\_name from employees where position <> supervisors;

Select employee\_ID, first\_name, last\_name, department from employees;

select employee\_id, first\_name from employees where salary > (select avg(salary) from employees);

### **Lab Number 11:**

use dreamhome;

create table Self (FName varchar(50) NOT NULL,familyName varchar (50) NOT NULL);

insert into Self

values (Adil', 'Mehmood’),

('Daniyal', 'Khan),

('Adnan', 'Khurshid');

SELECT CONCAT("Imdad ", "Khan ") AS ConcatenatedString;

SELECT LENGTH(Fname) AS LengthOfString from Self;

select LOCATE("i", "Haider");

SELECT upper("Imdad");

SELECT lower("Imdad");

SELECT REPEAT(familyName, 3) from Self;

SELECT STRCMP("imdad1", "imdad");

SELECT SUBSTR("Imdad", 4) AS ExtractString;

SELECT LEFT("Imdad", 5) AS ExtractString;

SELECT ASCII(FName) FROM Self;

SELECT COT(6);

SELECT COS(2);

SELECT LOG(2);

SELECT SQUARE(64);

SELECT COUNT(Fname) AS NumberOfNames FROM Self;

SELECT AVG(maxRent) AS AveragePrice FROM client;

SELECT MAX(maxRent) AS LargestPrice FROM client;

SELECT MIN(maxRent) AS SmallestPrice FROM client;

SELECT FLOOR(25.75) AS FloorValue;

SELECT CEILING(25.75) AS CeilValue;

### **Lab Number 12:**

select sum(salary) from staff;

select COUNT(position) from staff;

select COUNT(DISTINCT position)from staff;

### **Lab Number 15:**

update staff set fName='imdad', lName='khan’ where salary = '90000';

delete from branch where branchNo='b001';

update staff set salary=’3000000’ where salary=NULL;

update staff set salary=500000 where salary='10000';

insert into branch values('C011','Sultan street', 'ABT', '1101');

**LAB:16**

1. create table supplier (supplier\_id int(10) NOT NULL, supplier\_name varchar(50) NOT NULL, address varchar(50));
2. alter table supplier add primary key (supplier\_id);
3. create table Items (itemname varchar(255) NOT NULL, supplier\_id int(10) NOT NULL, itemprice int(15) NOT NULL);
4. alter table Items ADD FOREIGN KEY (supplier\_id) REFERENCES supplier(supplier\_id);