Contents

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1 Common Solution

1.1 Lab 6

```
-- 1. Create Database
create database DreamHome
-- 2. Set My Working Database in Query Editor
use DreamHome


-- 3. Create Tables

-- Branch
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);

-- Staff
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));

-- Client
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)

-- PrivateOwner
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)

-- PropertyForRent
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));

-- Viewing
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)

-- Registration
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)

-- 4.2 Multiple Rows Example
INSERT into Branch (branchNo, street, city, postcode)
VALUES
('B001', 'H#79 I-10/2', 'ISB', '52000'),
('B002', 'H#78 Supply', 'ABT', '53000'),
('B003', 'H#79 I-10/2', 'ISB', '52000'),
('B004','H#78 Mandia', 'ABT', '53000'),
('B005','H#85 Supply', 'ABT', '53000'),
('B006','H#86 G-6', 'ISB', '52000'),
('B007','H#895 Cantt', 'ABT', '53000'),
('B008','H#55 Kalapul', 'ABT', '53000'),
('B009','H#986 Beer', 'HAR', '22620'),
('B010','H#12 Cantt', 'HAV', '22500'),
('B011','H#565 KTS', 'HAR', '22620'),
('B012','H#123 KTS', 'HAR', '22620'),
('B013','H#985 F-9', 'ISB', '52000'),
('B014','H#120 DHA', 'LHR', '54000'),
('B015','H#76 TIP', 'HAR', '22620'),
('B016','H#33 Baldher', 'HAR', '22620'),
('B017','H#22 SALHAD', 'ABT', '53000'),
('B018','H#11 HARNOI', 'ABT', '53000'),
('B019','H#13 H-9', 'ISB', '52000'),
('B020','H#99 FAIZABAD', 'RWP', '44000'),
('B021','H#164 PANIAN', 'HAR', '22620')

insert into Staff (staffNo, fName, lName, position, sex, DOB, salary, branchNo)
VALUES
('SA9', 'Mary', 'Howe', 'Assistant', 'F', '9/11/1988', 20000, 'B002'),
('SG14', 'David', 'Ford', 'Supervisor', 'M','11/9/1987', 100000, 'B003'),
('SG37', 'An', 'Beech', 'Assistant', 'F','12/8/1986', 90000, 'B003'),
('SG5', 'Susa', 'Brand', 'Manager', 'F', '5/9/1989', 120000, 'B003'),
('SL21', 'Joh', 'White', 'Manager', 'M', '2/12/1992', 100000, 'B004'),
('SL41', 'Julie', 'Lee', 'Assistant', 'F', '8/3/1990', 50000, 'B002'),
('SP98', 'Akbar', 'Shah', 'Assistant Manager', 'M', '9/8/1996', 70000, 'B005'),
('SK32', 'Mahrukh', 'Bibi', 'Customer Service', 'F', '10/4/1994', 60000, 'B010'),
('SB83', 'Ahmad', 'Hassan', 'Clerk', 'M', '4/6/1991', 40000, 'B009'),
('SR68', 'Hamid', 'Ali', 'Security Guard', 'M', '9/12/1982', 10000, 'B007'),
('SI12', 'Akhtar', 'Rasheed', 'Security Officer', 'M', '8/9/1989', 50000, 'B012'),
('SV56', 'Hajra', 'Khan', 'Customer Service', 'F', '3/4/1992', 60000, 'B006'),
('ST91', 'Maria', 'Kareem', 'Customer Service Manager', 'M', '1/7/1991', 80000, 'B008'),
('SO61', 'Kamran', 'Khan', 'Salesperson', 'M', '9/2/1987', 70000, 'B020'),
('SQ19', 'Khurshid', 'Akram', 'Finance Manager', 'M', '12/8/1982', 80000, 'B011'),
('SJ37', 'Sara', 'Majeed', 'HR Manager', 'F', '12/6/1981', 60000, 'B019'),
('SD52', 'Parvaiz', 'Khan', 'Security Guard', 'M', '11/12/1985', 15000, 'B013'),
('ST26', 'Bushra', 'Khan', 'Salesperson', 'F', '5/10/1990', 60000, 'B017'),
('SN99', 'Khalid', 'Kamal', 'Security Guard', 'M', '12/12/1992', 16000, 'B014'),
('SF7', 'Mubashir', 'Naveed', 'Receptionist', 'M', '1/12/1996', 30000, 'B016'),

('SG76', 'Awais', 'Qamar', 'Operations Manager', 'M', '9/4/1988', 80000, 'B015'),
('SW84', 'Muneer', 'Zaman', 'Marketing Manager', 'M', '7/1/1992', 70000, 'B021'),
('SZ34', 'Sana', 'Khan', 'Receptionist', 'F', '5/12/1996', 50000, 'B018')

insert into Client (clientNo , fName, lName, telNo, prefType, maxRent)
VALUES
('A001', 'Imad', 'Ahmad', '03004463173', '1 bed Apartment', '5000'),
('A002', 'Akbar', 'Majeed', '03125648789', 'Shared Apartment', '6000'),
('A003','Farukh','Javed','03468965741','Townhome','70000'),
('A004','Imran','Hashmi','03034321986','Bungalow','100000'),
('A005','Farhat','Javed','03218954219','Small Vacation Cottage','80000'),
('A006','Sajjad','Babar','03364512789','Multi Family home','180000'),
('A007','Sidhu','Moosewala','03111111111','3 room apartment','60000'),
('A008','Arshid','Khan','03211236957','Double story house','130000'),
('A009','Javed','Shiekh','03489137982','Single Family home','80000'),
('A010','Saira','Muneer','03007319654','Villa','500000'),
('A011','Poorab','Kumar','03184967852','Shared Apartment','9000'),
('A012','Faisal','Khan','03467845123','Townhome','75000'),
('A013','Abdus','Salam','03096598753','Villa','500000'),
('A014','Rab','Nawaz','03416385951','Bungalow','110000'),
('A015','Obaid','Sheikh','03426284759','Multi Family Home','160000'),
('A016','Qamar','Javed','03134679169','Villa','600000'),
('A017','Jannat','Mirza','03166969969','Codominium','90000'),
('A018','Babu','Rao','03104916872','Shared Apartment','15000'),
('A019','Sania','Mirza','03451535985','Bungalow','90000'),
('A020','Sham','Idrees','03108020500','1 bed Apartment','5000'),
('A021','Javed','Kazmi','03165288572','Single Family Home','90000')

insert into PrivateOwner (ownerNo, fName, lName, address, telNo)
values
('K01','Javed','Aziz','H# 85 Mandia, ATD ','03001245985'),
('K02','Sana','Bucha','H# 21 I-10, ISB','03368754953'),
('K03','Ali','Khan','H#45 KTS, HAR','03314915375'),
('K04','Ahmed','Akhtar','H#20 Supply, ATD','03457296348'),
('K05','Kabir','Singh','H#99 Salhad, ATD','03348719652'),
('K06','Parvaiz','Musharraf','H#86 G-6, ISB','03321596548'),
('K07','Benazir','Shah','H#286 DHA, KAR','03216598174'),
('K08','Jaan','Raheem','H#100 Cantt, LHR','03012000563'),
('K09','Umar','Gul','H#91 Cantt, HAV','03485265154'),
('K10','Raheem','Pardesi','H#20 H-6, ISB','03259826547'),
('K11','Hubaib','Naeem','H#65 G-9, ISB','03185400163'),
('K12','Qaiser','Khattak','H#156 Saddar, PEW','03420096050'),
('K13','Abdullah','Shah','H#48 Topi, SWB','03083032021'),
('K14','Babar','Khan','H#25 TIP,HAR','03058574321'),
('K15','Rehm','Nawaz','H#87 I-4, ISB','03065491032'),
('K16','Hamza','Akbar','H#152 Panian, HAR','03024595687'),
('K17','Nasir','Khan','H#756 Uni road, PEW','03461289567'),
('K18','Alex','Bhatti','H#301 Bahria Town, KAR','03487006320'),
('K19','Hareem','Shah','H#186 Cantt, MAN','03215906903'),
('K20','Waqar','Zaka','H#564 North Nazimabad,KAR','03237506501'),
('K21','Aamir','Liaqat','H#487 Gulshan Iqbal, KAR','03196585021')

insert into PropertyForRent (propertyNo, street, city, postcode, [type], rooms, rent, ownerNo, staffNo, branchNo)
values
('P01','S# 10','ISB','52000','Apartment','2','15000','K01','SA9','B010'),

('P02','S# 2','KAR','72400','Apartment','3','20000','K19','SG14','B012'),
('P03','S# 5','PEW','25000','Single Fam','4','50000','K09','SG37','B001'),
('P04','S# 1','HAV','22500','Villa','10','170000','K14','SG5','B002'),
('P05','S# 1','HAR','22620','Bungalow','4','70000','K10','SL21','B009'),
('P06','S# 2','LHR','54000','Townhome','3','40000','K03','SL41','B015'),
('P07','S# 9','SWB','23430','Single Fam','3','45000','K12','SP98','B013'),
('P08','S# 6','ATD','53000','Apartment','2','12000','K20','SK32','B003'),
('P09','S# 7','MAN','21300','Bungalow','4','60000','K07','SG76','B004'),
('P10','S# 8','ISB','52000','Condo','5','50000','K21','SG76','B018'),
('P11','S# 5','ISB','52000','2 Story','6','100000','K18','ST26','B016'),
('P12','S# 4','ATD','53000','Single Fam','4','45000','K04','SV56','B005'),
('P13','S# 5','ISB','52000','Apartment','2','18000','K13','ST91','B021'),
('P14','S# 6','KAR','72400','Townhome','3','35000','K11','SO61','B008'),
('P15','S# 9','LHR','54000','Apartment','2','16000','K15','SQ19','B014'),
('P16','S# 5','HAR','22620','Multi Fam','8','95000','K05','SJ37','B020'),
('P17','S# 3','ATD','53000','Apartment','2','10000','K17','SW84','B006'),
('P18','S# 7','ATD','53000','Townhome','4','50000','K08','ST26','B019'),
('P19','S# 4','ATD','53000','Single Fam','4','35000','K06','ST26','B011'),
('P20','S# 10','PEW','25000','2 Story','7','70000','K16','SF7','B017'),
('P21','S# 3','ISB','53000','Single Fam','3','30000','K02','SG76','B007')

insert into Viewing (clientNo, propertyNo, viewDate, comment)
values
('A013','P04','10/10/2020','Status Pending'),
('A001','P17','12/25/2018','Rented'),
('A014','P09','5/19/2019','Rented'),
('A011','P01','7/1/2019','Rented'),
('A006','P16','8/8/2020','Rented'),
('A019','P05','2/18/2018','Rented'),
('A010','P04','10/10/2020','Status Pending'),
('A020','P01','5/25/2018','Rented'),
('A007','P02','3/8/2019','Rented'),
('A017','P10','5/6/2019','Rented'),
('A002','P13','2/20/2020','Rented'),
('A021','P07','9/9/2019','Rented'),
('A009','P03','1/5/2020','Rented'),
('A015','P16','10/10/2020','Status Pending'),
('A004','P09','10/10/2020','Status Pending'),
('A008','P11','8/26/2019','Rented'),
('A018','P15','9/22/2018','Rented'),
('A003','P06','10/8/2019','Rented'),
('A016','P04','11/11/2018','Rented'),
('A012','P14','12/25/2019','Rented'),
('A005','P09','10/10/2020','Status Pending')

insert into Registration (clientNo, branchNo, staffNo, dateJoined)
values
('A001','B010','SG5','10/5/2018'),
('A002','B011','SO61','9/6/2018'),
('A003','B005','SW84','7/5/2018'),
('A004','B008','SP98','12/9/2018'),
('A005','B016','ST26','11/25/2018'),
('A006','B019','SG5','10/29/2018'),
('A007','B001','SW84','5/30/2018'),
('A008','B018','SG76','6/12/2018'),
('A009','B009','ST26','12/12/2018'),

('A010','B012','SW84','6/29/2018'),
('A011','B017','SP98','8/16/2018'),
('A012','B004','SO61','12/18/2018'),
('A013','B021','SG5','11/11/2018'),
('A014','B013','ST26','11/15/2018'),
('A015','B020','SW84','9/11/2018'),
('A016','B003','SG76','1/5/2019'),
('A017','B014','SO61','1/25/2019'),
('A018','B006','SG76','2/3/2019'),
('A019','B015','SO61','1/20/2019'),
('A020','B002','ST26','11/8/2018'),
('A021','B007','SW84','12/30/2018')

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

1.2 LAB 7

<u>Q#1</u> Print the list of postcodes without any repetition

ANS Select distinct(postcode) from Branch;

<u>Q#2</u> Print all fName from Staff without repetition

ANS Select distinct(fName) from Staff;

<u>Q#3</u> List all staff with renaming all its columns in results

ANS Select staffNo as ID, fName as FirstNAme, lName as LastName, [position] as Allocation, sex as Gender, DOB as Birth, salary as Wages, branchNo as Branch from Staff;

<u>Q#4</u> List all clients with re-naming all its columns to synonyms.

ANS SELECT clientNo as StakeHolderID, fName as FirstName, lName as LastName, telNo as PhoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

<u>Q#5</u> List all staff with a salary greater than 10,000.

ANS SELECT salary FROM Staff where salary >10000;

<u>Q#6</u> List all managers and supervisors.

ANS SELECT [position] FROM Staff Where [position] = 'supervisor' OR [position] = 'manager';

1.3 LAB 8

```sql
use DreamHome;

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 = 'Man-
ager';
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 sal-
ary FROM Staff WHERE branchNo = 'B003');

-- For DreamHome case study write at least 3 examples of each category for sorting,
grouping and aggregate operations.
--sorting
SELECT branchNo FROM Branch ORDER BY postcode ASC;
SELECT fName , lName , maxRent FROM Client ORDER BY maxRent DESC;
SELECT fName, salary FROM Staff ORDER BY salary DESC;
--grouping
SELECT clientNo, fName, maxRent FROM Client WHERE maxRent < 180000 AND maxRent > 10000;
SELECT fName, lName FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;
SELECT fName, salary FROM Staff WHERE sex = 'M' AND position = 'Clerk';

--aggregate clauses
SELECT COUNT(propertyNo) AS TotalProperty FROM Viewing;
SELECT avg(salary) AS totalsalary FROM Staff ;
SELECT max(salary) AS totalsalary FROM Staff ;
```

2   Abdul Haseeb Khan (SP19-BCS-001)

2.1 Lab 6

LAB 6

-- 1. Create Database
create database DreamHome

-- 2. Set My Working Database in Query Editor
use DreamHome

-- 3. Create Tables

-- Branch
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);

-- Staff
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));

-- Client
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)

-- PrivateOwner
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)

-- PropertyForRent
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));

-- Viewing
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)

-- Registration
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 PropertyForRent (propertyNo, street, city, postcode, [type], rooms, rent, ownerNo, staffNo, branchNo)
values
('P01','S# 10','ISB','52000','Apartment','2','15000','K01','SA9','B010'),
('P02','S# 2','KAR','72400','Apartment','3','20000','K19','SG14','B012'),
('P03','S# 5','PEW','25000','Single Fam','4','50000','K09','SG37','B001'),
('P04','S# 1','HAV','22500','Villa','10','170000','K14','SG5','B002'),
('P05','S# 1','HAR','22620','Bungalow','4','70000','K10','SL21','B009'),
('P06','S# 2','LHR','54000','Townhome','3','40000','K03','SL41','B015'),
('P07','S# 9','SWB','23430','Single Fam','3','45000','K12','SP98','B013'),
('P08','S# 6','ATD','53000','Apartment','2','12000','K20','SK32','B003'),
('P09','S# 7','MAN','21300','Bungalow','4','60000','K07','SG76','B004'),
('P10','S# 8','ISB','52000','Condo','5','50000','K21','SG76','B018'),
('P11','S# 5','ISB','52000','2 Story','6','100000','K18','ST26','B016')

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

2.2 Lab 7

SOLUTION

Q#1 Print the list of postcodes without any repetition

ANS Select distinct(postcode) from Branch;

Q#2 Print all fName from Staff without repetition

ANS Select distinct(fName) from Staff;

Q#3 List all staff with renaming all its columns in results

ANS Select staffNo as ID, fName as FirstName, lName as LastName, [position] as Allocation, sex as Gender, DOB as DateOfBirth, salary as Wages, branchNo as Branch from Staff;

Q#4 List all clients with re-naming all its columns to synonyms.

ANS SELECT clientNo as StakeHolderID, fName as FirstName, lName as LastName, telNo as PhoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

Q#5 List all staff with a salary greater than 10,000.

ANS SELECT salary FROM Staff where salary >10000;

Q#6 List all managers and supervisors.

ANS SELECT [position] FROM Staff Where [position] = 'supervisor' OR [position] = 'manager';

2.3   Lab 8

3   Ashfaq Rahim (SP19-BCS-003)

3.1   Lab 6

```
1 -- create database;
create database DreamHome
-- 2. Set My Working Database in Query Editor
  use DreamHome;


-- 3. Create Tables
```

-- Branch
```
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);
```

-- Staff
```
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, sal-
ary DECIMAL NOT NULL,
branchNo varchar(20) NOT NULL References Branch(branchNo));
```

-- Client
```
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)
```

-- PrivateOwner
```
create table PrivateOwner (ownerNo varchar(20) NOT NULL PRIMARY KEY, fName var-
char(50) NOT NULL, lName varchar(50) NOT NULL,
[address] varchar(50) NOT NULL, telNo varchar(20) NOT NULL)
```

-- PropertyForRent
```
create table PropertyForRent (propertyNo varchar(20) NOT NULL PRIMARY KEY, street var-
char(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));
```

-- Viewing
```
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)
```

-- Registration
```
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)
```


4.2 Multiple Rows Example
```
INSERT into Branch (branchNo, street, city, postcode)
VALUES
```

('B001', 'H#79 I-10/2', 'ISB', '52000'),
('B002', 'H#78 Supply', 'ABT', '53000'),
('B003', 'H#79 I-10/2', 'ISB', '52000'),
('B004','H#78 Mandia', 'ABT', '53000'),
('B005','H#85 Supply', 'ABT', '53000'),
('B006','H#86 G-6', 'ISB', '52000'),
('B007','H#895 Cantt', 'ABT', '53000'),
('B008','H#55 Kalapul', 'ABT', '53000'),
('B009','H#986 Beer', 'HAR', '22620'),
('B010','H#12 Cantt', 'HAV', '22500'),
('B011','H#565 KTS', 'HAR', '22620'),
('B012','H#123 KTS', 'HAR', '22620'),
('B013','H#985 F-9', 'ISB', '52000'),
('B014','H#120 DHA', 'LHR', '54000'),
('B015','H#76 TIP', 'HAR', '22620'),
('B016','H#33 Baldher', 'HAR', '22620'),
('B017','H#22 SALHAD', 'ABT', '53000'),
('B018','H#11 HARNOI', 'ABT', '53000'),
('B019','H#13 H-9', 'ISB', '52000'),
('B020','H#99 FAIZABAD', 'RWP', '44000'),
('B021','H#164 PANIAN', 'HAR', '22620')

3.2   Lab 7

use DreamHome;

-- 1. Print the list of postcode without any repetition
Select distinct(postcode) from Branch;

--2. Print all fName from Staff without repetition
Select distinct(fame) from Staff;

--3. List all staff with renaming all its columns in results

**Select staffNo as Id, fName as Father, lName as Employee, [position] as Allocation, sex as Gender,
DOB as Birth, salary as Wage, branchNo as Branch
from Staff;**

--4. List all clients with re-naming all its columns to synonyms.

SELECT clientNo as StockHolderID, fName as FatherName, lName as Name, telNo as phoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

--5. List all staff with a salary greater than 10,000.
SELECT salary FROM Staff where salary >10000;

--6. List all managers and supervisors.

SELECT [position] FROM Staff Where [position] = 'Supervisor' OR [position] = 'Manager';

Reviewed by:.

Comments:

Problems:

Rating: 1 – 10

3.3 Lab 8

use DreamHome;

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 opera-
tions.
--sorting
SELECT branchNo FROM Branch ORDER BY postcode ASC;
SELECT fName , lName , maxRent FROM Client ORDER BY maxRent DESC;
SELECT fName, salary FROM Staff ORDER BY salary DESC;
--grouping
SELECT clientNo, fName, maxRent FROM Client WHERE maxRent < 180000 AND maxRent > 10000;  SELECT
fName, lName FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;
SELECT fName, salary FROM Staff WHERE sex = 'M' AND position = 'Clerk';

--aggregate clauses
SELECT COUNT(propertyNo) AS TotalProperty FROM Viewing;
SELECT avg(salary) AS totalsalary FROM Staff ;
SELECT max(salary) AS totalsalary FROM Staff ;
```

Reviewed by:.

Comments:

Problems:

Rating: 1 – 10

4 Fahad Afzal (SP19-BCS-006)

4.1 Lab 6

```
-- 1. Create Database
create database DreamHome


-- 2. Set My Working Database in Query Editor
use DreamHome
```

-- 3. Create Tables

-- Branch
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);

-- Staff
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 DEC-
IMAL NOT NULL,
branchNo varchar(20) NOT NULL References Branch(branchNo));

-- Client
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)

-- PrivateOwner
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)

-- PropertyForRent
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));

-- Viewing
create table Viewing (clientNo varchar(20) NOT NULL References Client(clientNo),
propertyNo varchar(20) NOT NULL Refer-
ences PropertyForRent(propertyNo), viewDate DateTime NOT NULL, comment varchar(200) NOT
NULL)

--this table is for me

-- Registration
create table Registration(clientNo varchar(20) NOT NULL References Client(clientNo),
branchNo varchar(20) NOT NULL References Branch(branchNo),staffNo varchar(20) NOT NULL Ref-
erences Staff(staffNo),dateJoined DateTime NOT NULL)

--work for me in group

--I have make and fill registration table.
insert into Registration (clientNo, branchNo, staffNo, dateJoined)
values
('A001','B010','SG5','10/5/2018'),
('A002','B011','SO61','9/6/2018'),
('A003','B005','SW84','7/5/2018'),
('A004','B008','SP98','12/9/2018'),
('A005','B016','ST26','11/25/2018'),
('A006','B019','SG5','10/29/2018'),
('A007','B001','SW84','5/30/2018'),
('A008','B018','SG76','6/12/2018'),
('A009','B009','ST26','12/12/2018'),
('A010','B012','SW84','6/29/2018'),
('A011','B017','SP98','8/16/2018'),
('A012','B004','SO61','12/18/2018'),
('A013','B021','SG5','11/11/2018'),
('A014','B013','ST26','11/15/2018'),
('A015','B020','SW84','9/11/2018'),
('A016','B003','SG76','1/5/2019'),
('A017','B014','SO61','1/25/2019'),
('A018','B006','SG76','2/3/2019'),
('A019','B015','SO61','1/20/2019'),
('A020','B002','ST26','11/8/2018'),
('A021','B007','SW84','12/30/2018')

Reviewed by:.

Badar

Comments:

Complete the task according to the requirements.

Problems:

no

Rating: 1 – 10

10

4.2 Lab 7

```
Select distinct(postcode) from Branch;


--Print all fName from Staff without repetition
-- COMMAND:
SELECT distinct(fName) FROM Staff;
```

```
--List all staff with renaming all its columns in results
-- COMMAND:
Select staffNo As MyStaffNo, fName As MyFirstName, lName As MyLastName, position As MyPo-
sition, DOB As MYDOB, salary As MySalary, branchNo As MyBranchNO  from Staff;


--List all clients with re-naming all its columns to synonyms.
-- COMMAND:
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.
-- COMMAND:
SELECT * FROM Staff WHERE salary > 10000;


--List all managers and supervisors.
--COMMAND:
SELECT * FROM Staff WHERE position = 'manager' OR position = 'supervisor';
```

Reviewed by:.

Badar

Comments:

Complete the task according to the requirements.

Problems:

 no

Rating: 1 – 10

10

4.3 Lab 8

use DreamHome;

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.
--sorting
SELECT branchNo FROM Branch ORDER BY postcode ASC;
SELECT fName , lName , maxRent FROM Client ORDER BY maxRent DESC;
SELECT fName, salary FROM Staff ORDER BY salary DESC;
--grouping
SELECT clientNo, fName, maxRent FROM Client WHERE maxRent < 180000 AND maxRent > 10000; SELECT fName, lName FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;
SELECT fName, salary FROM Staff WHERE sex = 'M' AND position = 'Clerk';

--aggregate clauses
SELECT COUNT(propertyNo) AS TotalProperty FROM Viewing;
SELECT avg(salary) AS totalsalary FROM Staff ;
SELECT max(salary) AS totalsalary FROM Staff ;

5   Hassaan Shahnawaz (SP19-BCS-008)

5.1   Lab 6

-- 1. Create Database

create database DreamHome

-- 2. Set My Working Database in Query Editor

use DreamHome

-- 3. Create Tables

-- Branch

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);

-- Staff

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));

-- Client

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)

-- PrivateOwner

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)

-- PropertyForRent

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));

-- Viewing

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)

-- Registration

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)

-- 4.2 Multiple Rows Example

insert into PropertyForRent (propertyNo, street, city, postcode, [type], rooms, rent, ownerNo, staffNo, branchNo)

values

('P12','S# 4','ATD','53000','Single Fam','4','45000','K04','SV56','B005'),

('P13','S# 5','ISB','52000','Apartment','2','18000','K13','ST91','B021'),

('P14','S# 6','KAR','72400','Townhome','3','35000','K11','SO61','B008'),

('P15','S# 9','LHR','54000','Apartment','2','16000','K15','SQ19','B014'),

('P16','S# 5','HAR','22620','Multi Fam','8','95000','K05','SJ37','B020'),

('P17','S# 3','ATD','53000','Apartment','2','10000','K17','SW84','B006'),

('P18','S# 7','ATD','53000','Townhome','4','50000','K08','ST26','B019'),

('P19','S# 4','ATD','53000','Single Fam','4','35000','K06','ST26','B011'),

('P20','S# 10','PEW','25000','2 Story','7','70000','K16','SF7','B017'),

('P21','S# 3','ISB','53000','Single Fam','3','30000','K02','SG76','B007')

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

5.2   Lab 7

-- lab-7

use DreamHome;

-- 1. Print the list of postcode without any repetition
Select distinct(postcode) from Branch;

--2. Print all fName from Staff without repetition
Select distinct(fName) from Staff;

--3. List all staff with renaming all its columns in results

Select staffNo as Id, fName as Father, lName as Employee, [position] as Allocation, sex as Gender,
DOB as Birth, salary as Wage, branchNo as Branch from Staff;

--4. List all clients with re-naming all its columns to synonyms.

SELECT clientNo as StockHolderID, fName as FatherName, lName as Name, telNo as phoneNo, prefType as Pref-
erence, maxRent as MaximumRent FROM Client;

--5. List all staff with a salary greater than 10,000.
SELECT salary FROM Staff where salary >10000;

--6. List all managers and supervisors.

SELECT [position] FROM Staff Where [position] = 'Supervisor' OR [position] = 'Manager';

5.3 Lab 8

--Examples

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

--grouping clauses
SELECT staffNo, fName, salary FROM Staff WHERE position = 'Assistant' AND salary < 10000;
SELECT fName, salary FROM Staff WHERE sex = 'M' AND position = 'Manager';
SELECT fName, lName FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;

--aggregate clauses
SELECT COUNT(DISTINCT(propertyNo)) AS TotalProperty FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-04';
SELECT propertyNo AS ClientID FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-04';
SELECT clientNo, propertyNo FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-09';

24

6   Hassan Ali Jadoon (SP19-BCS-009)

6.1   Lab 6

```sql
--Lab 6 Work

create database DreamHome;
use Dreamhome;

-- 3. Create Tables


-- PrivateOwner
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)

insert into PrivateOwner (ownerNo, fName, lName, address, telNo)
values
('K01','Javed','Aziz','H# 85 Mandia, ATD ','03001245985'),
('K02','Sana','Bucha','H# 21 I-10, ISB','03368754953'),
('K03','Ali','Khan','H#45 KTS, HAR','03314915375'),
('K04','Ahmed','Akhtar','H#20 Supply, ATD','03457296348'),
('K05','Kabir','Singh','H#99 Salhad, ATD','03348719652'),
('K06','Parvaiz','Musharraf','H#86 G-6, ISB','03321596548'),
('K07','Benazir','Shah','H#286 DHA, KAR','03216598174'),
('K08','Jaan','Raheem','H#100 Cantt, LHR','03012000563'),
('K09','Umar','Gul','H#91 Cantt, HAV','03485265154'),
('K10','Raheem','Pardesi','H#20 H-6, ISB','03259826547'),
('K11','Hubaib','Naeem','H#65 G-9, ISB','03185400163'),
('K12','Qaiser','Khattak','H#156 Saddar, PEW','03420096050'),
('K13','Abdullah','Shah','H#48 Topi, SWB','03083032021'),
('K14','Babar','Khan','H#25 TIP,HAR','03058574321'),
('K15','Rehm','Nawaz','H#87 I-4, ISB','03065491032'),
('K16','Hamza','Akbar','H#152 Panian, HAR','03024595687'),
('K17','Nasir','Khan','H#756 Uni road, PEW','03461289567'),
```

```
('K18','Alex','Bhatti','H#301 Bahria Town, KAR','03487006320'),
('K19','Hareem','Shah','H#186 Cantt, MAN','03215906903'),
('K20','Waqar','Zaka','H#564 North Nazimabad,KAR','03237506501'),
('K21','Aamir','Liaqat','H#487 Gulshan Iqbal, KAR','03196585021')
```

6.2 Lab 7

```
--Lab 7
use DreamHome;
--1. Print the list of postcode without any repetition.
select distinct (postcode) from branch;
--2. Print all fName from staff without any repetit.
select distinct (fname) from Staff;
--3. List all staff with re-naming all its columns in results.
--select city as mycity from branch;
--select * from staff;
select staffNo as RegNo,fName as FatherName,lname as lastName, position as postName, sex
as gender, DOB as BirthDate, salary as income, branchNo as officeNo from Staff;
--4. List all clients with re-naming all its columns to synonyms.
--select * from Client;
select clientNo as CustomerNo, fname as FatherNo, lname as lastName, telNo as Pho-
neNumber, prefType as preference, maxRent as maximumRent from Client;
--5. List all staff with a salary greater than 10,000.
--select * from Branch;
select salary from staff where salary>10000;
--6. List all the managers and supervisors.
SELECT  [position] FROM  Staff Where [position] = 'Supervisor' OR [position] = 'Manager';
```

6.3   Lab 8:

Pending…

7   Imad Ahmad (SP19-BCS-011)

7.1   Lab 6

7.2   Lab 7

7.3 Lab 8

8 Khanzada Haider Ali (SP19-BCS-013)

8.1 Lab 6

```sql
-- 1. Create Database
create database DreamHome
-- 2. Set My Working Database in Query Editor
use DreamHome


-- 3. Create Tables


-- Staff
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));


-- 4.2 Multiple Rows Example


insert into Staff (staffNo, fName, lName, position, sex, DOB, salary, branchNo)
VALUES
('SA9', 'Mary', 'Howe', 'Assistant', 'F', '9/11/1988', 20000, 'B002'),
('SG14', 'David', 'Ford', 'Supervisor', 'M','11/9/1987', 100000, 'B003'),
```

```
('SG37', 'An', 'Beech', 'Assistant', 'F','12/8/1986', 90000, 'B003'),
('SG5', 'Susa', 'Brand', 'Manager', 'F', '5/9/1989', 120000, 'B003'),
('SL21', 'Joh', 'White', 'Manager', 'M', '2/12/1992', 100000, 'B004'),
('SL41', 'Julie', 'Lee', 'Assistant', 'F', '8/3/1990', 50000, 'B002'),
('SP98', 'Akbar', 'Shah', 'Assistant Manager', 'M', '9/8/1996', 70000, 'B005'),
('SK32', 'Mahrukh', 'Bibi', 'Customer Service', 'F', '10/4/1994', 60000, 'B010'),
('SB83', 'Ahmad', 'Hassan', 'Clerk', 'M', '4/6/1991', 40000, 'B009'),
('SR68', 'Hamid', 'Ali', 'Security Guard', 'M', '9/12/1982', 10000, 'B007'),
('SI12', 'Akhtar', 'Rasheed', 'Security Officer', 'M', '8/9/1989', 50000, 'B012'),
('SV56', 'Hajra', 'Khan', 'Customer Service', 'F', '3/4/1992', 60000, 'B006'),
('ST91', 'Maria', 'Kareem', 'Customer Service Manager', 'M', '1/7/1991', 80000, 'B008'),
('SO61', 'Kamran', 'Khan', 'Salesperson', 'M', '9/2/1987', 70000, 'B020'),
('SQ19', 'Khurshid', 'Akram', 'Finance Manager', 'M', '12/8/1982', 80000, 'B011'),
('SJ37', 'Sara', 'Majeed', 'HR Manager', 'F', '12/6/1981', 60000, 'B019'),
('SD52', 'Parvaiz', 'Khan', 'Security Guard', 'M', '11/12/1985', 15000, 'B013'),
('ST26', 'Bushra', 'Khan', 'Salesperson', 'F', '5/10/1990', 60000, 'B017'),
('SN99', 'Khalid', 'Kamal', 'Security Guard', 'M', '12/12/1992', 16000, 'B014'),
('SF7', 'Mubashir', 'Naveed', 'Receptionist', 'M', '1/12/1996', 30000, 'B016'),
('SG76', 'Awais', 'Qamar', 'Operations Manager', 'M', '9/4/1988', 80000, 'B015'),
('SW84', 'Muneer', 'Zaman', 'Marketing Manager', 'M', '7/1/1992', 70000, 'B021'),
('SZ34', 'Sana', 'Khan', 'Receptionist', 'F', '5/12/1996', 50000, 'B018')
```

Reviewed by:

Badar

Comments:

Nice work

Problems:

No

Rating: 1 – 10

10

8.2   Lab 7

-- lab-7

use DreamHome;

-- 1. Print the list of postcode without any repetition
Select distinct(postcode) from Branch;

--2. Print all fName from Staff without repetition
Select distinct(fName) from Staff;

--3. List all staff with renaming all its columns in results

Select staffNo as Id, fName as Father, lName as Employee, [position] as Allocation, sex as Gender,
DOB as Birth, salary as Wage, branchNo as Branch
from Staff;

--4. List all clients with re-naming all its columns to synonyms.

SELECT clientNo as StockHolderID, fName as FatherName, lName as Name, telNo as phoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

--5. List all staff with a salary greater than 10,000.
SELECT salary FROM Staff where salary >10000;

--6. List all managers and supervisors.

SELECT [position] FROM Staff Where [position] = 'Supervisor' OR [position] = 'Manager';

Reviewed by:.

Badar

Comments:

Great job

Problems

No:

Rating: 1 – 10

10

8.3   Lab 8

use DreamHome;

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.
--sorting
SELECT branchNo FROM Branch ORDER BY postcode ASC;
SELECT fName , lName , maxRent FROM Client ORDER BY maxRent DESC;
SELECT fName, salary FROM Staff ORDER BY salary DESC;
--grouping
SELECT clientNo, fName, maxRent FROM Client WHERE maxRent < 180000 AND maxRent > 10000; SELECT fName, lName FROM Staff WHERE (SELECT AVG(salary) FROM Staff) < salary;
SELECT fName, salary FROM Staff WHERE sex = 'M' AND position = 'Clerk';

--aggregate clauses
SELECT COUNT(propertyNo) AS TotalProperty FROM Viewing;
SELECT avg(salary) AS totalsalary FROM Staff ;
SELECT max(salary) AS totalsalary FROM Staff ;

9   Sardar Badar Saghir (SP19-BCS-022)

9.1   Lab 6

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);

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

values

('A013','P04','10/10/2020','Status Pending'),

('A001','P17','12/25/2018','Rented'),

('A014','P09','5/19/2019','Rented'),

('A011','P01','7/1/2019','Rented'),

('A006','P16','8/8/2020','Rented'),

('A019','P05','2/18/2018','Rented'),

('A010','P04','10/10/2020','Status Pending'),

('A020','P01','5/25/2018','Rented'),

('A007','P02','3/8/2019','Rented'),

('A017','P10','5/6/2019','Rented'),

('A002','P13','2/20/2020','Rented'),

('A021','P07','9/9/2019','Rented'),

('A009','P03','1/5/2020','Rented'),

('A015','P16','10/10/2020','Status Pending'),

('A004','P09','10/10/2020','Status Pending'),

('A008','P11','8/26/2019','Rented'),

('A018','P15','9/22/2018','Rented'),

('A003','P06','10/8/2019','Rented'),

('A016','P04','11/11/2018','Rented'),

('A012','P14','12/25/2019','Rented'),

('A005','P09','10/10/2020','Status Pending');

9.2   Lab 7

Q#1 Print the list of postcodes without any repetition

ANS Select distinct(postcode) from Branch;

Q#2 Print all fName from Staff without repetition

ANS Select distinct(fName) from Staff;

Q#3 List all staff with renaming all its columns in results

ANS Select staffNo as ID, fName as FirstNAme, lName as LastName, [position] as Allocation, sex as Gender, DOB as Birth, salary as Wages, branchNo as Branch from Staff;

Q#4 List all clients with re-naming all its columns to synonyms.

ANS SELECT clientNo as StakeHolderID, fName as FirstName, lName as LastName, telNo as PhoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

Q#5 List all staff with a salary greater than 10,000.

ANS SELECT salary FROM Staff where salary >10000;

Q#6 List all managers and supervisors.

ANS SELECT [position] FROM Staff Where [position] = 'supervisor' OR [position] = 'manager';

9.3   Lab 8

--Examples

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

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

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

SELECT fName FROM Staff ORDER BY fName DESC;

--grouping clauses

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

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

SELECT fName, lName FROM Staff WHERE salary = (SELECT AVG(salary) FROM Staff)

--aggregate clauses

SELECT COUNT(DISTINCT(propertyNo)) AS TotalProperty FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-04';

SELECT propertyNo AS ClientID FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-04';

SELECT clientNo, propertyNo FROM Viewing WHERE viewDate BETWEEN '1-May-00' AND '31-May-09';

Reviewed by:

Khaznada Haider (sp19-bcs-013)

Comments:

This class is pending by sir

Problems:

Pending

Rating: 1 – 10

Pending

10 Muhammad Awais (SP19-BCS-033)

10.1 Lab 6


```sql
create database DreamHome;
use Dreamhome;

-- 3. Create Tables


-- PrivateOwner
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)
```

```
insert into PrivateOwner (ownerNo, fName, lName, address, telNo)
values
('K01','Javed','Aziz','H# 85 Mandia, ATD ','03001245985'),
('K02','Sana','Bucha','H# 21 I-10, ISB','03368754953'),
('K03','Ali','Khan','H#45 KTS, HAR','03314915375'),
('K04','Ahmed','Akhtar','H#20 Supply, ATD','03457296348'),
('K05','Kabir','Singh','H#99 Salhad, ATD','03348719652'),
('K06','Parvaiz','Musharraf','H#86 G-6, ISB','03321596548'),
('K07','Benazir','Shah','H#286 DHA, KAR','03216598174'),
('K08','Jaan','Raheem','H#100 Cantt, LHR','03012000563'),
('K09','Umar','Gul','H#91 Cantt, HAV','03485265154'),
('K10','Raheem','Pardesi','H#20 H-6, ISB','03259826547'),
('K11','Hubaib','Naeem','H#65 G-9, ISB','03185400163'),
('K12','Qaiser','Khattak','H#156 Saddar, PEW','03420096050'),
('K13','Abdullah','Shah','H#48 Topi, SWB','03083032021'),
('K14','Babar','Khan','H#25 TIP,HAR','03058574321'),
('K15','Rehm','Nawaz','H#87 I-4, ISB','03065491032'),
('K16','Hamza','Akbar','H#152 Panian, HAR','03024595687'),
('K17','Nasir','Khan','H#756 Uni road, PEW','03461289567'),
('K18','Alex','Bhatti','H#301 Bahria Town, KAR','03487006320'),
('K19','Hareem','Shah','H#186 Cantt, MAN','03215906903'),
('K20','Waqar','Zaka','H#564 North Nazimabad,KAR','03237506501'),
('K21','Aamir','Liaqat','H#487 Gulshan Iqbal, KAR','03196585021')
```

Reviewed by:

Badar

Comments:

He completed His part

Problems:

No

Rating: 1 – 10

10

10.2 Lab 7

use DreamHome;

1. Print the list of postcode without any repetition
Select distinct(postcode) from Branch;

2. Print all fName from Staff without repetition
Select distinct(fName) from Staff;

3. List all staff with renaming all its columns in results

Select staffNo as IdNumber , fName as FirstName, lName as LastName, [position] as Occupation, sex as Gender,
DOB as Birth, salary as Payment, branchNo as BranchId
from Staff;

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

SELECT clientNo as StockHolderID, fName as FirstName, lName as Name, telNo as phoneNo, prefType as Preference, maxRent as MaximumRent FROM Client;

5. List all staff with a salary greater than 10,000.
SELECT salary FROM Staff where salary >10000;

6. List all managers and supervisors.

SELECT [position] FROM Staff Where [position] = 'Supervisor' OR [position] = 'Manager';

10.3 Lab 8

Pending…

1 Lab 11 Expressions and Single Row Functions

A very short lab to play around with mathematical expression in the SQL query and use some single row functions.

1.1 Common Solutions

1.1.1 Lab Exercise 1

Create a table with your marks in any three subjects during your F.Sc. Examination. Find the total marks, percentage marks, average marks, maximum marks, minimum marks, using expressions and the follwing row functions.

Create table FSCMarks(Id int not null identity(1,1,) primary key, StudentName varchar(50) not null, SubjectName varchar(50) not null, TotalMarks int not null, ObtainedMarks int not null)

Insert into FSCMarks(StudentName, SubjectName, TotalMarks, ObtainedMarks)

Values ('Student 1', 'Sub 1', 100, 86),

Values ('Student 1', 'Sub 2', 100, 83),

Values ('Student 2', 'Sub 1', 100, 89),

Values ('Student 2', 'Sub 2', 100, 82),

….

Total Marks:

SELECT SUM(TotalMarks) from FSCMarks

Percentage Marks of the Class:

SELECT ROUND(ObtainedMarks /TotalMarks * 100) from FSCMarks;

Percentage Marks of Students:

SELECT ROUND(ObtainedMarks /TotalMarks * 100) from FSCMarks

Group By StudentName, ObtainedMarks, TotalMarks;

Average Marks for Class:

1.2 Students Solution

Mahad FA18-BCS-007

1.2.1.1 Lab Exercise 1

Create a table with your marks in any three subjects during your F.Sc. Examination. Find the total marks, percentage marks, average marks, maximum marks, minimum marks, using expressions and the follwing row functions.

Create table FSCMarks(Id int not null identity(1,1,) primary key, StudentName varchar(50) not null, SubjectName varchar(50) not null, TotalMarks int not null, ObtainedMarks int not null)

Insert into FSCMarks(StudentName, SubjectName, TotalMarks, ObtainedMarks)

Values ('Student 1', 'Sub 1', 100, 86),

Values ('Student 1', 'Sub 2', 100, 83),

Values ('Student 2', 'Sub 1', 100, 89),

Values ('Student 2', 'Sub 2', 100, 82),

….

Total Marks:

….

1.2.1.2 Lab Exercise 2

Reviewers

1.2.1.2.1 Ali FA18-BCS-007

Comments:
Record of two subjects was created while the exercise ask for 3 subjects at least.
Rating:6

1.2.1.2.2 Ali FA18-BCS-007

Comments:
Record of two subjects was created while the exercise ask for 3 subjects at least.
Rating:6