**Group 4:**

**Group Members:**

**1.Zahir Ayub Khan(Group Leader) 2.Jamal khan**

**3.Nauman Ali 4.Syed Shan E Ali**

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# Lab 5 Common Solution :

create table Student ( ID nchar(30),

Name varchar(30),

);

create table Transcript ( Subject nchar(30),

GPA nchar(30), ID nchar(30),

);

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-001', 'ahmad khan');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-002', 'Hassan ali');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-003', 'Bilal Khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-004', 'Rana Noon');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-005', 'Zoya Yusufzai');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-006', 'Zain Ahmad');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-007', 'Ghulam mujtaba');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-008', 'Hamza ali khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-009', 'Ali Joiya');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-010', 'Alex markovich');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Math','2.3','Sp17-bse-001');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('English','3.3','Sp17-bse-002');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Database system','2.7','Sp17-bse-003');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('OOP','3.7','Sp17-bse-004');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Islamic studies','3.0','Sp17-bse-005');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('CA','2.0','Sp17-bse-006');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Advance OOP','2.7','Sp17-bse-007');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('statistics','2.3','Sp17-bse-008');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Cal1','2.3','Sp17-bse-009');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('SQE','2.7','Sp17-bse-010');

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

create database StudentTranscriptDB use StudentTranscriptDB

create table Student( StudentId nchar(30), Name(30))

insert into Student(StudentId,Name) values ('fa20-bcs-001','ali')

insert into Student(StudentId,Name) values ('fa20-bcs-002','Aftab')

insert into Student(StudentId,Name) values ('fa20-bcs-003','Ammar')

insert into Student(StudentId,Name) values ('fa20-bcs-004','Mohsin')

insert into Student(StudentId,Name) values ('fa20-bcs-005','Zubair')

insert into Student(StudentId,Name) values ('fa20-bcs-006','Daniyal')

insert into Student(StudentId,Name) values ('fa20-bcs-007','Usman')

insert into Student(StudentId,Name) values ('fa20-bcs-008','Abbass')

insert into Student(StudentId,Name) values ('fa20-bcs-009','Saddique')

insert into Student(StudentId,Name) values ('fa20-bcs-010','Umar')

create table Transcript( CourseName nchar(30), GPA float(30),

StudentId nchar(30)

);

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-001')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-002')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','2.7','fa20-bcs-003')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.3','fa20-bcs-004')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','4.0','fa20-bcs-005')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.7','fa20-bcs-006')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','2.0','fa20-bcs-007')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.7','fa20-bcs-008')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.5','fa20-bcs-009')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.0','fa20-bcs-010')

Select Count(\*) As [Number of std]

FROM [StudentTranscriptDB].[dbo].[Transcript] Group By CourseName

Select CourseName, AVG(GPA) As [AVG GPA]

FROM [StudentTranscriptDB].[dbo].[Transcript] Group By CourseName

## Zahir Ayub Khan:

create table Student ( ID nchar(30),

Name varchar(30),

);

create table Transcript ( Subject nchar(30),

GPA nchar(30), ID nchar(30),

);

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-001', 'ahmad khan');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-002', 'Hassan ali');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-003', 'Bilal Khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-004', 'Rana Noon');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-005', 'Zoya Yusufzai');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-006', 'Zain Ahmad');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-007', 'Ghulam mujtaba');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-008', 'Hamza ali khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-009', 'Ali Joiya');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-010', 'Alex markovich');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Math','2.3','Sp17-bse-001');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('English','3.3','Sp17-bse-002');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Database system','2.7','Sp17-bse-003');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('OOP','3.7','Sp17-bse-004');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Islamic studies','3.0','Sp17-bse-005');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('CA','2.0','Sp17-bse-006');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Advance OOP','2.7','Sp17-bse-007');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('statistics','2.3','Sp17-bse-008');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Cal1','2.3','Sp17-bse-009');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('SQE','2.7','Sp17-bse-010');

### Jamal Khan:

create database StudentTranscriptDB use StudentTranscriptDB

create table Student( StudentId nchar(30), Name(30))

insert into Student(StudentId,Name) values ('fa20-bcs-001','ali')

insert into Student(StudentId,Name) values ('fa20-bcs-002','Aftab')

insert into Student(StudentId,Name) values ('fa20-bcs-003','Ammar')

insert into Student(StudentId,Name) values ('fa20-bcs-004','Mohsin')

insert into Student(StudentId,Name) values ('fa20-bcs-005','Zubair')

insert into Student(StudentId,Name) values ('fa20-bcs-006','Daniyal')

insert into Student(StudentId,Name) values ('fa20-bcs-007','Usman')

insert into Student(StudentId,Name) values ('fa20-bcs-008','Abbass')

insert into Student(StudentId,Name) values ('fa20-bcs-009','Saddique')

insert into Student(StudentId,Name) values ('fa20-bcs-010','Umar')

create table Transcript( CourseName nchar(30), GPA float(30),

StudentId nchar(30)

);

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-001')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-002')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','2.7','fa20-bcs-003')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.3','fa20-bcs-004')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','4.0','fa20-bcs-005')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.7','fa20-bcs-006')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','2.0','fa20-bcs-007')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.7','fa20-bcs-008')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.5','fa20-bcs-009')

insert into Transcript (CourseName,GPA,StudentId) values

('Database Systems','3.0','fa20-bcs-010')

Select Count(\*) As [Number of std]

FROM [StudentTranscriptDB].[dbo].[Transcript] Group By CourseName

Select CourseName, AVG(GPA) As [AVG GPA]

FROM [StudentTranscriptDB].[dbo].[Transcript] Group By CourseName

# Update And Delete Common Solution:

create table Student ( ID nchar(30),

Name varchar(30),

);

create table Transcript ( Subject nchar(30),

GPA nchar(30), ID nchar(30),

);

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-001', 'ahmad khan');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-002', 'Hassan ali');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-003', 'Bilal Khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-004', 'Rana Noon');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-005', 'Zoya Yusufzai');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-006', 'Zain Ahmad');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-007', 'Ghulam mujtaba');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-008', 'Hamza ali khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-009', 'Ali Joiya');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-010', 'Alex markovich');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Math','2.3','Sp17-bse-001');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('English','3.3','Sp17-bse-002');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Database system','2.7','Sp17-bse-003');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('OOP','3.7','Sp17-bse-004');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Islamic studies','3.0','Sp17-bse-005');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('CA','2.0','Sp17-bse-006');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Advance OOP','2.7','Sp17-bse-007');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('statistics','2.3','Sp17-bse-008');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Cal1','2.3','Sp17-bse-009');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('SQE','2.7','Sp17-bse-010');

UPDATE Transcript Set GPA='2.7'

WHERE ID='Sp17-bse-001';

UPDATE Transcript Set GPA='1.7'

WHERE ID='Sp17-bse-006';

UPDATE Transcript Set GPA='2.3'

WHERE ID='Sp17-bse-010';

DELETE FROM Transcript WHERE ID='Sp17-bse-009'; DELETE FROM Transcript WHERE ID='Sp17-bse-008';

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

create database StudentTranscriptDB use StudentTranscriptDB

create table Student( StudentId nchar(30), Name(30))

insert into Student(StudentId,Name) values ('fa20-bcs-001','ali')

insert into Student(StudentId,Name) values ('fa20-bcs-002','Aftab')

insert into Student(StudentId,Name) values ('fa20-bcs-003','Ammar')

insert into Student(StudentId,Name) values ('fa20-bcs-004','Mohsin')

insert into Student(StudentId,Name) values ('fa20-bcs-005','Zubair')

insert into Student(StudentId,Name) values ('fa20-bcs-006','Daniyal')

insert into Student(StudentId,Name) values ('fa20-bcs-007','Usman')

insert into Student(StudentId,Name) values ('fa20-bcs-008','Abbass')

insert into Student(StudentId,Name) values ('fa20-bcs-009','Saddique')

insert into Student(StudentId,Name) values ('fa20-bcs-010','Umar')

create table Transcript( CourseName nchar(30), GPA float(30),

StudentId nchar(30)

);

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-001')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-002')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','2.7','fa20-bcs-003')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.3','fa20-bcs-004')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','4.0','fa20-bcs-005')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.7','fa20-bcs-006')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','2.0','fa20-bcs-007')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.7','fa20-bcs-008')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.5','fa20-bcs-009')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.0','fa20-bcs-010')

DELETE FROM Transcript WHERE StudentId='fa20-bcs-008';

select \* from Transcript

UPDATE Transcript set GPA='3.3'WHERE StudentId='fa20-bcs-010'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-002'; select \* from Transcript

UPDATE Transcript set GPA='3.3'WHERE StudentId='fa20-bcs-004'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-001'; select \* from Transcript

UPDATE Transcript set GPA='1.3'WHERE StudentId='fa20-bcs-003'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-006'; select \* from Transcript

UPDATE Transcript set GPA='0'WHERE StudentId='fa20-bcs-009'; select \* from Transcript

## Zahir Ayub Khan:

create table Student ( ID nchar(30),

Name varchar(30),

);

create table Transcript ( Subject nchar(30),

GPA nchar(30), ID nchar(30),

);

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-001', 'ahmad khan');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-002', 'Hassan ali');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-003', 'Bilal Khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-004', 'Rana Noon');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-005', 'Zoya Yusufzai');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-006', 'Zain Ahmad');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-007', 'Ghulam mujtaba');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-008', 'Hamza ali khan');

INSERT INTO Student (ID, Name) VALUES ('Sp17-bse-009', 'Ali Joiya');

INSERT INTO Student (ID, Name)

VALUES ('Sp17-bse-010', 'Alex markovich');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Math','2.3','Sp17-bse-001');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('English','3.3','Sp17-bse-002');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Database system','2.7','Sp17-bse-003');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('OOP','3.7','Sp17-bse-004');

INSERT INTO Transcript(Subject,GPA,ID)

VALUES ('Islamic studies','3.0','Sp17-bse-005');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('CA','2.0','Sp17-bse-006');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Advance OOP','2.7','Sp17-bse-007');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('statistics','2.3','Sp17-bse-008');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('Cal1','2.3','Sp17-bse-009');

INSERT INTO Transcript(Subject,GPA,ID) VALUES ('SQE','2.7','Sp17-bse-010');

UPDATE Transcript Set GPA='2.7'

WHERE ID='Sp17-bse-001';

UPDATE Transcript Set GPA='1.7'

WHERE ID='Sp17-bse-006';

UPDATE Transcript Set GPA='2.3'

WHERE ID='Sp17-bse-010';

DELETE FROM Transcript WHERE ID='Sp17-bse-009'; DELETE FROM Transcript WHERE ID='Sp17-bse-008';

### Jamal Khan:

create database StudentTranscriptDB use StudentTranscriptDB

create table Student( StudentId nchar(30), Name(30))

insert into Student(StudentId,Name) values ('fa20-bcs-001','ali')

insert into Student(StudentId,Name) values ('fa20-bcs-002','Aftab')

insert into Student(StudentId,Name) values ('fa20-bcs-003','Ammar')

insert into Student(StudentId,Name) values ('fa20-bcs-004','Mohsin')

insert into Student(StudentId,Name) values ('fa20-bcs-005','Zubair')

insert into Student(StudentId,Name) values ('fa20-bcs-006','Daniyal')

insert into Student(StudentId,Name) values ('fa20-bcs-007','Usman')

insert into Student(StudentId,Name) values ('fa20-bcs-008','Abbass')

insert into Student(StudentId,Name) values ('fa20-bcs-009','Saddique')

insert into Student(StudentId,Name) values ('fa20-bcs-010','Umar')

create table Transcript( CourseName nchar(30), GPA float(30),

StudentId nchar(30)

);

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-001')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','1.3','fa20-bcs-002')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','2.7','fa20-bcs-003')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.3','fa20-bcs-004')

insert into Transcript (CourseName,GPA,StudentId) values ('Database System','4.0','fa20-bcs-005')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.7','fa20-bcs-006')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','2.0','fa20-bcs-007')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.7','fa20-bcs-008')

insert into Transcript (CourseName,GPA,StudentId) values ('Operating Systems','2.5','fa20-bcs-009')

insert into Transcript (CourseName,GPA,StudentId) values ('Database Systems','3.0','fa20-bcs-010')

DELETE FROM Transcript WHERE StudentId='fa20-bcs-008'; select \* from Transcript

UPDATE Transcript set GPA='3.3'WHERE StudentId='fa20-bcs-010'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-002'; select \* from Transcript

UPDATE Transcript set GPA='3.3'WHERE StudentId='fa20-bcs-004'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-001'; select \* from Transcript

UPDATE Transcript set GPA='1.3'WHERE StudentId='fa20-bcs-003'; select \* from Transcript

DELETE FROM Transcript WHERE StudentId='fa20-bcs-006'; select \* from Transcript

UPDATE Transcript set GPA='0'WHERE StudentId='fa20-bcs-009'; select \* from Transcript

# Lab 6 Common Solution:

select \* from branch;

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B005', 'H#88 j-13/3', 'ABT', '54000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B006', 'H#77 k-14/6', 'KARI', '56000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B007', 'H#89 m-11/7', 'QUA', '63000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B008', 'H#69 I-10/2', 'ISL', '52200');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B009', 'H#35 I-61/2', 'HAR', '73000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0010', 'H#66 I-01/5', 'MUL', '32100');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0011', 'H#99 I-11/3', 'ABT', '53300');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0012', 'H#12 I-10/2', 'SWA', '57700');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0013', 'H#19 I-13/6', 'KARI', '56600');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0014', 'H#35 I-62/2', 'HAR', '73800');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0015', 'H#66 I-02/5', 'MUL', '23700');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0016', 'H#99 I-17/3', 'ABT', '81900');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0017', 'H#12 I-80/6', 'SWA', '65100');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0018', 'H#19 I-93/6', 'KARI', '89100');

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

create database DreamHome; use Dreamhome;

create table Branch(branchNo varchar(20) NOT NULL PRIMARY KEY, street varchar(50) NOT NULL, city varchar(50) NOT NULL,

postcode varchar(20) NOT NULL);

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0019','X#11 Y-11/1', 'ABBOTTABAD', '22500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0020','X#77 Y-22/2', 'MANSERA', '23400');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0021','X#89 Y-33/3', 'PESHAWER', '24500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0022','X#69 Y-44/4', 'MARDAN', '26500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0023','X#35 Y-55/5', 'KOHAT', '27500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0024','X#66 Y-66/6', 'NOWSHERA', '28500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0025','X#99 Y-77/7', 'SWABI', '29500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0026','X#12 Y-88/8', 'ISLAMABAD', '31500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0027','X#19 Y-99/9', 'RAWALPINDI', '32500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0028','X#35 Y-12/1', 'LAHORE', '33500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0029','X#66 Y-13/2', 'KARACHI', '34500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0030','X#99 Y-14/3', 'MULTAN', '35500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0031','X#12 Y-15/4', 'HYDERABAD', '36500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0032','X#19 Y-16/5', 'OKHARA', '37500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0033','X#35 Y-12/1', 'LAHORE', '8000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0034','X#66 Y-13/2', 'KARACHI', '9000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0035','X#99 Y-14/3', 'MULTAN', '11000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0036','X#12 Y-15/4', 'HYDERABAD', '15000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0037','X#19 Y-16/5', 'OKHARA', '34500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0038','X#35 Y-12/1', 'LAHORE', '1000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0039','X#66 Y-13/2', 'KARACHI', '19000');

## Zahir Ayub Khan:

select \* from branch;

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B005', 'H#88 j-13/3', 'ABT', '54000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B006', 'H#77 k-14/6', 'KARI', '56000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B007', 'H#89 m-11/7', 'QUA', '63000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B008', 'H#69 I-10/2', 'ISL', '52200');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B009', 'H#35 I-61/2', 'HAR', '73000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0010', 'H#66 I-01/5', 'MUL', '32100');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0011', 'H#99 I-11/3', 'ABT', '53300');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0012', 'H#12 I-10/2', 'SWA', '57700');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0013', 'H#19 I-13/6', 'KARI', '56600');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0014', 'H#35 I-62/2', 'HAR', '73800');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0015', 'H#66 I-02/5', 'MUL', '23700');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0016', 'H#99 I-17/3', 'ABT', '81900');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0017', 'H#12 I-80/6', 'SWA', '65100');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0018', 'H#19 I-93/6', 'KARI', '89100');

### Jamal Khan:

create database DreamHome; use Dreamhome;

create table Branch(branchNo varchar(20) NOT NULL PRIMARY KEY, street varchar(50) NOT NULL, city varchar(50) NOT NULL,

postcode varchar(20) NOT NULL);

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0019','X#11 Y-11/1', 'ABBOTTABAD', '22500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0020','X#77 Y-22/2', 'MANSERA', '23400');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0021','X#89 Y-33/3', 'PESHAWER', '24500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0022','X#69 Y-44/4', 'MARDAN', '26500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0023','X#35 Y-55/5', 'KOHAT', '27500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0024','X#66 Y-66/6', 'NOWSHERA', '28500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0025','X#99 Y-77/7', 'SWABI', '29500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0026','X#12 Y-88/8', 'ISLAMABAD', '31500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0027','X#19 Y-99/9', 'RAWALPINDI', '32500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0028','X#35 Y-12/1', 'LAHORE', '33500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0029','X#66 Y-13/2', 'KARACHI', '34500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0030','X#99 Y-14/3', 'MULTAN', '35500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0031','X#12 Y-15/4', 'HYDERABAD', '36500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0032','X#19 Y-16/5', 'OKHARA', '37500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0033','X#35 Y-12/1', 'LAHORE', '8000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0034','X#66 Y-13/2', 'KARACHI', '9000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0035','X#99 Y-14/3', 'MULTAN', '11000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0036','X#12 Y-15/4', 'HYDERABAD', '15000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0037','X#19 Y-16/5', 'OKHARA', '34500');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0038','X#35 Y-12/1', 'LAHORE', '1000');

INSERT into Branch (branchNo, street, city, postcode) VALUES ('B0039','X#66 Y-13/2', 'KARACHI', '19000');

# Lab 7 Common Solution:

Q1: Print the list of postcodes without any repetition Select distinct(postcode) from Branch;

Q2: Print all fName from Staff without repetition Select distinct(fName) from Staff;

Q3: List all staff with renaming all its columns in results

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;

Q4: List all clients with re-naming all its columns to synonyms.

Select clientNo as StakeHolderID, fName as

FirstName, lName as LastName, telNo as PhoneNo, prefType as Preference, maxRent as MaximumRent from Client;

Q5: List all staff with a salary greater than 10,000. Select salary from Staff where salary >10000;

Q6: List all managers and supervisors.

Select [position] from Staff Where [position] = 'supervisor' OR [position]

='manager'

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

Q1: Print the list of postcodes without any repetition

ANS: Select distinct(postcode) from Branch;

Q2: Print all fName from Staff without repetition ANS: Select distinct(fName) from Staff;

Q3: 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;

Q4: 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;

Q5: List all staff with a salary greater than 10,000. ANS SELECT salary FROM Staff where salary >10000;

Q6: List all managers and supervisors.

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

## Zahir Ayub khan:

Q1: Print the list of postcodes without any repetition Select distinct(postcode) from Branch;

Q2: Print all fName from Staff without repetition Select distinct(fName) from Staff;

Q3: List all staff with renaming all its columns in results

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;

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Select clientNo as StakeHolderID, fName as

FirstName, lName as LastName, telNo as PhoneNo, prefType as Preference, maxRent as MaximumRent from Client;

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Q6: List all managers and supervisors.

Select [position] from Staff Where [position] = 'supervisor' OR [position]

='manager'

### Jamal Khan:

Q1: Print the list of postcodes without any repetition

ANS: Select distinct(postcode) from Branch;

Q2: Print all fName from Staff without repetition ANS: Select distinct(fName) from Staff;

Q3: 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;

Q4: 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;

Q5: List all staff with a salary greater than 10,000. ANS SELECT salary FROM Staff where salary >10000;

Q6: List all managers and supervisors.

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

# LAB 8 Common Solution:

Q1:

select staffNo,fName,lName,salary from staff order by salary desc Q2:

select propertyNo,type,rooms,rent from PropertyForRent order by type

select propertyNo,type,rooms,rent from PropertyForRent order by type,rent desc Q3:

select count(\*) as myCount from PropertyForRent where rent<=500 Q4:

select count(Distinct propertyNo) As myCount from

Viewing where viewDate BETWEEN '1-May-04' AND '31-May-04'; Q5:

select count(staffNo) as myCount,sum(salary) as mySalary from staff where position='Manager'

Q6:

select MIN(salary) as myMin, MAX(salary) as MyMax, AVG(salary) as myAVG from Staff

Q7:

select staffNo, fName, lName, position,

salary from Staff where (select AVG(salary) from Staff) < salary; Q8:

select \*from Staff where salary> any(select salary from Staff where branchNo='B002')

Qno9:-

select \*from Staff where salary> all(select salary from Staff where branchNo='B002')

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

Q1:

Ans: select staffNo,fName,lName,salary from staff order by salary desc Q2:

Ans: select propertyNo,type,rooms,rent from PropertyForRent order by type select propertyNo,type,rooms,rent from PropertyForRent order by type,rent desc

Q3:

Ans: select count(\*) as myCount from PropertyForRent where rent<=500

Q4:

Ans: select count(Distinct propertyNo) As myCount from Viewing WHERE viewDate BETWEEN '1-May-04' AND '31-May-04';

Q5:

Ans: select count(staffNo) as myCount,sum(salary) as mySalary from staff where position='Manager'

Q6:

Ans: select MIN(salary) as myMin, MAX(salary) as myMax, AVG(salary) as myAVG from Staff

Q7:

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

Q8:

Ans: select \*from Staff where salary> any(select salary from Staff where branchNo='B003')

Q9:

Ans: select \*from Staff where salary> all(select salary from Staff where branchNo='B003')

## Zahir Ayub Khan:

Q1:

select staffNo,fName,lName,salary from staff order by salary desc Q2:

select propertyNo,type,rooms,rent from PropertyForRent order by type

select propertyNo,type,rooms,rent from PropertyForRent order by type,rent desc Q3:

select count(\*) as myCount from PropertyForRent where rent<=500 Q4:

select count(Distinct propertyNo) As myCount from

Viewing where viewDate BETWEEN '1-May-04' AND '31-May-04'; Q5:

select count(staffNo) as myCount,sum(salary) as mySalary from staff where position='Manager'

Q6:

select MIN(salary) as myMin, MAX(salary) as MyMax, AVG(salary) as myAVG from Staff

Q7:

select staffNo, fName, lName, position,

salary from Staff where (select AVG(salary) from Staff) < salary; Q8:

select \*from Staff where salary> any(select salary from Staff where branchNo='B002')

Qno9:-

select \*from Staff where salary> all(select salary from Staff where branchNo='B002')

### Jamal Khan:

# Q1:

Ans: select staffNo,fName,lName,salary from staff order by salary desc Q2:

Ans: select propertyNo,type,rooms,rent from PropertyForRent order by type select propertyNo,type,rooms,rent from PropertyForRent order by type,rent desc

Q3:

Ans: select count(\*) as myCount from PropertyForRent where rent<=500

Q4:

Ans: select count(Distinct propertyNo) As myCount from Viewing WHERE viewDate BETWEEN '1-May-04' AND '31-May-04';

Q5:

Ans: select count(staffNo) as myCount,sum(salary) as mySalary from staff where position='Manager'

Q6:

Ans: select MIN(salary) as myMin, MAX(salary) as myMax, AVG(salary) as myAVG from Staff

Q7:

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

Q8:

Ans: select \*from Staff where salary> any(select salary from Staff where branchNo='B003')

Q9:

Ans: select \*from Staff where salary> all(select salary from Staff where branchNo='B003')

# LAB 9 Common Solution:

# CREATE DATABASE employeese;

# SELECT FIRST\_NAME, LAST\_NAME, SALARY

# FROM employees

# WHERE SALARY >

# (SELECT salary FROM employees WHERE last\_name = 'popp');

# SELECT first\_name, last\_name

# FROM employees

# WHERE department\_id

# IN (SELECT department\_id FROM departments WHERE department\_name='IT');

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

Q1:

SELECT \* FROM employees;

Q2:

SELECT FIRST\_NAME, LAST\_NAME, SALARY

FROM employees

WHERE SALARY >

(SELECT salary FROM employees WHERE last\_name = 'Bull');

Q3:

SELECT first\_name, last\_name

FROM employees

WHERE department\_id

IN (SELECT department\_id FROM departments WHERE department\_name='IT');

### Jamal Khan:

Q1:

SELECT \* FROM employees;

Q2:

SELECT FIRST\_NAME, LAST\_NAME, SALARY

FROM employees

WHERE SALARY >

(SELECT salary FROM employees WHERE last\_name = 'Bull');

Q3:

SELECT first\_name, last\_name

FROM employees

WHERE department\_id

IN (SELECT department\_id FROM departments WHERE department\_name='IT');

## Zahir Ayub Khan:

## CREATE DATABASE employeese;

## SELECT FIRST\_NAME, LAST\_NAME, SALARY

## FROM employees

## WHERE SALARY >

## (SELECT salary FROM employees WHERE last\_name = 'popp');

## SELECT first\_name, last\_name

## FROM employees

## WHERE department\_id

## IN (SELECT department\_id FROM departments WHERE department\_name='IT');

# LAB 10 Common Solution:

# 1.1

# SELECT first\_name, last\_name FROM employees

# WHERE manager\_id in (select employee\_id

# FROM employees WHERE department\_id

# IN (SELECT department\_id FROM departments WHERE location\_id

# IN (select location\_id from locations where country\_id='US')));

# 1.2

# SELECT first\_name, last\_name

# FROM employees

# WHERE (employee\_id IN (SELECT manager\_id FROM employees));

# 1.3

# SELECT first\_name, last\_name, salary FROM employees

# WHERE salary > (SELECT AVG(salary) FROM employees);

# 1.4

# SELECT first\_name, last\_name, salary

# FROM employees

# WHERE employees.salary = (SELECT min\_salary

# FROM jobs

# WHERE employees.job\_id = jobs.job\_id);

# 1.5

# SELECT first\_name, last\_name, salary

# FROM employees

# WHERE department\_id IN

# (SELECT department\_id FROM departments WHERE department\_name LIKE 'IT')

# AND salary > (SELECT avg(salary) FROM employees);

# 1.6

# SELECT first\_name, last\_name, salary

# FROM employees

# WHERE salary >

# (SELECT salary FROM employees WHERE last\_name = 'Bell') ORDER BY first\_name;

# 1.7

# SELECT \* FROM employees

# WHERE salary = (SELECT MIN(salary) FROM employees);

# 1.8

# SELECT \* FROM employees

# WHERE salary >

# ALL(SELECT avg(salary)FROM employees GROUP BY department\_id);

# 1.12

# SELECT employee\_id, first\_name, last\_name,

# (SELECT department\_name FROM departments d

# WHERE e.department\_id = d.department\_id) department

# FROM employees e ORDER BY department;

# 1.13

# SELECT employee\_id FROM employees

# WHERE employee\_id%2 = 0;

# 1.14

# SELECT DISTINCT salary

# FROM employees e1

# WHERE 5 = (SELECT COUNT(DISTINCT salary)

# FROM employees e2

# WHERE e2.salary >= e1.salary);

# 1.15

# SELECT DISTINCT salary

# FROM employees e1

# WHERE 4 = (SELECT COUNT(DISTINCT salary)

# FROM employees e2

# WHERE e2.salary <= e1.salary);

# 1.16

# SELECT \* FROM (

# SELECT \* FROM employees ORDER BY employee\_id DESC LIMIT 10) sub

# ORDER BY employee\_id ASC;

# 1.17

# SELECT \* FROM departments

# WHERE department\_id

# NOT IN (select department\_id FROM employees);

# 1.18

# SELECT DISTINCT salary

# FROM employees a

# WHERE 3 >= (SELECT COUNT(DISTINCT salary)

# FROM employees b

# WHERE b.salary >= a.salary)

# ORDER BY a.salary DESC;

# 1.19

# SELECT DISTINCT salary

# FROM employees a

# WHERE 3 >= (SELECT COUNT(DISTINCT salary)

# FROM employees b

# WHERE b.salary <= a.salary)

# ORDER BY a.salary DESC;

# 1.20

# SELECT \*

# FROM employees emp1

# WHERE (1) = (

# SELECT COUNT(DISTINCT(emp2.salary))

# FROM employees emp2

# WHERE emp2.salary > emp1.salary);

/\* Above work is Zahir Ayub Khan. Work Below Is Jamal khan\*/

Q1:

SELECT first\_name, last\_name FROM employees

WHERE manager\_id in (select employee\_id

FROM employees WHERE department\_id

IN (SELECT department\_id FROM departments WHERE location\_id

IN (select location\_id from locations where country\_id='US')));

Q2:

SELECT first\_name, last\_name

FROM employees

WHERE (employee\_id IN (SELECT manager\_id FROM employees));

Q3:

SELECT first\_name, last\_name, salary FROM employees

WHERE salary > (SELECT AVG(salary) FROM employees);

Q4:

SELECT first\_name, last\_name, salary

FROM employees

WHERE employees.salary = (SELECT min\_salary

FROM jobs

WHERE employees.job\_id = jobs.job\_id);

Q5:

SELECT first\_name, last\_name, salary

FROM employees

WHERE department\_id IN

(SELECT department\_id FROM departments WHERE department\_name LIKE 'IT%')

AND salary > (SELECT avg(salary) FROM employees);

Q6:

SELECT first\_name, last\_name, salary

FROM employees

WHERE salary >

(SELECT salary FROM employees WHERE last\_name = 'Bell') ORDER BY first\_name;

Q7:

SELECT \* FROM employees

WHERE salary = (SELECT MIN(salary) FROM employees);

Q8: Write a query to ﬁnd the names (ﬁrst\_name, last\_name), the salary of the em-ployees whose salary greater than the average salary of all departments?

SELECT \* FROM employees

WHERE salary >

ALL(SELECT avg(salary)FROM employees GROUP BY department\_id);

Q9: Write a query to ﬁnd the names (ﬁrst\_name, last\_name) and salary of the em-ployees who earn a salary that is higher than the salary of all the Shipping Clerk (JOB\_ID = ’SH\_CLERK’). Sort the results of the salary of the lowest to highest.

SELECT first\_name,last\_name, job\_id, salary

FROM employees

WHERE salary >

ALL (SELECT salary FROM employees WHERE job\_id = 'SH\_CLERK') ORDER BY salary;

Q10: Write a query to ﬁnd the names (ﬁrst\_name, last\_name) of the employees who are not supervisors?

SELECT b.first\_name,b.last\_name

FROM employees b

WHERE NOT EXISTS (SELECT 'X' FROM employees a WHERE a.manager\_id = b.employee\_id);

Q11: Write a query to display the employee ID, ﬁrst name, last names, and depart-ment names of all employees.

SELECT employee\_id, first\_name, last\_name,

(SELECT department\_name FROM departments d

WHERE e.department\_id = d.department\_id) department

FROM employees e ORDER BY department;

Q12: Write a query to display the employee ID, ﬁrst name, last names, salary of all employees whose salary is above average for their departments.

SELECT employee\_id, first\_name

FROM employees AS A

WHERE salary >

(SELECT AVG(salary) FROM employees WHERE department\_id = A.department\_id);

Q13: Write a query to fetch even numbered records from employees table.

SET @i = 0;

SELECT i, employee\_id

FROM (SELECT @i := @i + 1 AS i, employee\_id FROM employees)

a WHERE MOD(a.i, 2) = 0;

Q14: Write a query to ﬁnd the 5th maximum salary in the employees table.

SELECT DISTINCT salary

FROM employees e1

WHERE 5 = (SELECT COUNT(DISTINCT salary)

FROM employees e2

WHERE e2.salary >= e1.salary);

Q15: Write a query to ﬁnd the 4th minimum salary in the employees table.

SELECT DISTINCT salary

FROM employees e1

WHERE 4 = (SELECT COUNT(DISTINCT salary)

FROM employees e2

WHERE e2.salary <= e1.salary);

Q16: Write a query to select last 10 records from a table.

SELECT \* FROM (

SELECT \* FROM employees ORDER BY employee\_id DESC LIMIT 10) sub

ORDER BY employee\_id ASC;

Q17: Write a query to list department number, name for all the departments in which there are no employees in the department.

SELECT \* FROM departments

WHERE department\_id

NOT IN (select department\_id FROM employees);

Q18: Write a query to get 3 maximum salaries.

SELECT DISTINCT salary

FROM employees a

WHERE 3 >= (SELECT COUNT(DISTINCT salary)

FROM employees b

WHERE b.salary >= a.salary)

ORDER BY a.salary DESC;

Q19: Write a query to get 3 minimum salaries.

SELECT DISTINCT salary

FROM employees a

WHERE 3 >= (SELECT COUNT(DISTINCT salary)

FROM employees b

WHERE b.salary <= a.salary)

ORDER BY a.salary DESC;

Q20: Write a query to get nth max salaries of employees.Further practice with nested queries

SELECT \*

FROM employees emp1

WHERE (1) = (

SELECT COUNT(DISTINCT(emp2.salary))

FROM employees emp2

WHERE emp2.salary > emp1.salary);

## Zahir Ayub Khan:

### Jamal Khan:

Q1:

SELECT first\_name, last\_name FROM employees

WHERE manager\_id in (select employee\_id

FROM employees WHERE department\_id

IN (SELECT department\_id FROM departments WHERE location\_id

IN (select location\_id from locations where country\_id='US')));

Q2:

SELECT first\_name, last\_name

FROM employees

WHERE (employee\_id IN (SELECT manager\_id FROM employees));

Q3:

SELECT first\_name, last\_name, salary FROM employees

WHERE salary > (SELECT AVG(salary) FROM employees);

Q4:

SELECT first\_name, last\_name, salary

FROM employees

WHERE employees.salary = (SELECT min\_salary

FROM jobs

WHERE employees.job\_id = jobs.job\_id);

Q5:

SELECT first\_name, last\_name, salary

FROM employees

WHERE department\_id IN

(SELECT department\_id FROM departments WHERE department\_name LIKE 'IT%')

AND salary > (SELECT avg(salary) FROM employees);

Q6:

SELECT first\_name, last\_name, salary

FROM employees

WHERE salary >

(SELECT salary FROM employees WHERE last\_name = 'Bell') ORDER BY first\_name;

Q7:

SELECT \* FROM employees

WHERE salary = (SELECT MIN(salary) FROM employees);

Q8: Write a query to ﬁnd the names (ﬁrst\_name, last\_name), the salary of the em-ployees whose salary greater than the average salary of all departments?

SELECT \* FROM employees

WHERE salary >

ALL(SELECT avg(salary)FROM employees GROUP BY department\_id);

Q9: Write a query to ﬁnd the names (ﬁrst\_name, last\_name) and salary of the em-ployees who earn a salary that is higher than the salary of all the Shipping Clerk (JOB\_ID = ’SH\_CLERK’). Sort the results of the salary of the lowest to highest.

SELECT first\_name,last\_name, job\_id, salary

FROM employees

WHERE salary >

ALL (SELECT salary FROM employees WHERE job\_id = 'SH\_CLERK') ORDER BY salary;

Q10: Write a query to ﬁnd the names (ﬁrst\_name, last\_name) of the employees who are not supervisors?

SELECT b.first\_name,b.last\_name

FROM employees b

WHERE NOT EXISTS (SELECT 'X' FROM employees a WHERE a.manager\_id = b.employee\_id);

Q11: Write a query to display the employee ID, ﬁrst name, last names, and depart-ment names of all employees.

SELECT employee\_id, first\_name, last\_name,

(SELECT department\_name FROM departments d

WHERE e.department\_id = d.department\_id) department

FROM employees e ORDER BY department;

Q12: Write a query to display the employee ID, ﬁrst name, last names, salary of all employees whose salary is above average for their departments.

SELECT employee\_id, first\_name

FROM employees AS A

WHERE salary >

(SELECT AVG(salary) FROM employees WHERE department\_id = A.department\_id);

Q13: Write a query to fetch even numbered records from employees table.

SET @i = 0;

SELECT i, employee\_id

FROM (SELECT @i := @i + 1 AS i, employee\_id FROM employees)

a WHERE MOD(a.i, 2) = 0;

Q14: Write a query to ﬁnd the 5th maximum salary in the employees table.

SELECT DISTINCT salary

FROM employees e1

WHERE 5 = (SELECT COUNT(DISTINCT salary)

FROM employees e2

WHERE e2.salary >= e1.salary);

Q15: Write a query to ﬁnd the 4th minimum salary in the employees table.

SELECT DISTINCT salary

FROM employees e1

WHERE 4 = (SELECT COUNT(DISTINCT salary)

FROM employees e2

WHERE e2.salary <= e1.salary);

Q16: Write a query to select last 10 records from a table.

SELECT \* FROM (

SELECT \* FROM employees ORDER BY employee\_id DESC LIMIT 10) sub

ORDER BY employee\_id ASC;

Q17: Write a query to list department number, name for all the departments in which there are no employees in the department.

SELECT \* FROM departments

WHERE department\_id

NOT IN (select department\_id FROM employees);

Q18: Write a query to get 3 maximum salaries.

SELECT DISTINCT salary

FROM employees a

WHERE 3 >= (SELECT COUNT(DISTINCT salary)

FROM employees b

WHERE b.salary >= a.salary)

ORDER BY a.salary DESC;

Q19: Write a query to get 3 minimum salaries.

SELECT DISTINCT salary

FROM employees a

WHERE 3 >= (SELECT COUNT(DISTINCT salary)

FROM employees b

WHERE b.salary <= a.salary)

ORDER BY a.salary DESC;

Q20: Write a query to get nth max salaries of employees.Further practice with nested queries

SELECT \*

FROM employees emp1

WHERE (1) = (

SELECT COUNT(DISTINCT(emp2.salary))

FROM employees emp2

WHERE emp2.salary > emp1.salary);

# LAB 11 Common Solution:

## Zahir Ayub Khan:

### Jamal Khan:

Use dreamhome;

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

insert into Name

values ('Jamal', 'Nawaz'),

('Aftab', 'Kurshid'),

('Abdul', 'Rehman');

-- CONCATINATION

SELECT CONCAT("Ali ", "Shoukat") AS full String;

-- extra string funtions

SELECT LENGTH(Fname) AS LengthOfString from Name;

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

SELECT upper("Abdullah");

SELECT lower("Saifullah");

SELECT REPEAT(familyName, 3) from Name;

SELECT STRCMP("Afaaq", "Afaq");

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

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

SELECT ASCII(FName) FROM Name;

-- Maths function

SELECT COT(6);

SELECT COS(2);

SELECT LOG(2);

SELECT SQUARE(64);

SELECT COUNT(Fname) AS NumberOfNames FROM Name;

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 12 Common Solution:

## Zahir Ayub Khan:

### Jamal Khan:

**Q1:**

**SELECT country\_name, COUNT(Country\_code)**

**SELECT Sum(Urdu+English+pashto)AS total FROM country\_language**

**Q2:**

**SELECT sum([DISTINCT] expression) From ‘Country’**

**Q3:**

**SELECT count(\*) as total record ‘Country’**

**Q4:**

**SELECT countrylanguage**

**FROM (**

**SELECT countrylanguage, COUNT(\*) AS cnt**

**FROM mytable**

**WHERE language IN ('urdu','german','french','english')**

**GROUP BY countrylanguage**

**)**