

## SQL HANDS ON

EMPLOYEE ID:2211575

DATE:14-08-2022

### **Exercise.NO:1**

```
CREATE TABLE Trainer_Info(  
Trainer_Id VARCHAR(20) PRIMARY KEY UNIQUE NOT NULL,  
Salutation VARCHAR(7),  
Trainer_Name VARCHAR(30),  
Trainer_Location VARCHAR(30),  
Trainer_Track VARCHAR(15),  
Trainer_Qualification VARCHAR(100),  
Trainer_Experience INTEGER,  
Trainer_Email VARCHAR(100) UNIQUE,  
Trainer_Password VARCHAR(20));
```

```
CREATE TABLE Batch_Info(  
Batch_Id VARCHAR(20) PRIMARY KEY UNIQUE NOT NULL,  
Batch_Owner VARCHAR(30),  
Batch_BU_Name VARCHAR(30));
```

```
CREATE TABLE Module_Info(  
Module_Id VARCHAR(20) PRIMARY KEY UNIQUE NOT NULL,  
Module_Name VARCHAR(40),  
Module_Duration INTEGER);
```

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```
CREATE TABLE Associate_Info(  
Associate_Id VARCHAR(20) PRIMARY KEY UNIQUE NOT NULL,  
Salutation VARCHAR(7),  
Associate_Name VARCHAR(30),  
Associate_Location VARCHAR(30),  
Associate_track VARCHAR(15),  
Associate_Qualification VARCHAR(200),  
Associate_Email VARCHAR(100) UNIQUE,  
Associate_Password VARCHAR(20));
```

```
CREATE TABLE Questions(  
Question_Id VARCHAR(20) PRIMARY KEY UNIQUE NOT NULL,  
Module_Id VARCHAR(20),  
Question_Text VARCHAR(900),  
FOREIGN KEY (Module_Id) REFERENCES Module_info(Module_Id));
```

```
CREATE TABLE Associate_Status(  
Associate_Id VARCHAR(20),  
Module_Id VARCHAR(20),  
Batch_Id VARCHAR(20),  
Trainer_Id VARCHAR(20),  
Start_Date VARCHAR(20),  
End_Date VARCHAR(20),  
FOREIGN KEY (Associate_Id) REFERENCES Associate_Info(Associate_Id),
```

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```
FOREIGN KEY (Module_Id) REFERENCES Module_Info(Module_Id),  
FOREIGN KEY (Batch_Id) REFERENCES Batch_Info(Batch_Id),  
FOREIGN KEY (Trainer_Id) REFERENCES Trainer_Info(Trainer_Id));
```

```
CREATE TABLE Trainer_Feedback(  
Trainer_Id VARCHAR(20),  
Question_Id VARCHAR(20),  
Batch_Id VARCHAR(20),  
Module_Id VARCHAR(20),  
Trainer_Rating INTEGER,  
FOREIGN KEY (Trainer_Id) REFERENCES Trainer_Info(Trainer_Id),  
FOREIGN KEY (Question_Id) REFERENCES Questions(Question_Id),  
FOREIGN KEY (Batch_Id) REFERENCES Batch_Info(Batch_Id),  
FOREIGN KEY (Module_Id) REFERENCES Module_Info(Module_Id));
```

```
CREATE TABLE Associate_Feedback(  
Associate_Id VARCHAR(20),  
Question_Id VARCHAR(20),  
Module_Id VARCHAR(20),  
Associate_Rating INTEGER,  
FOREIGN KEY (Associate_Id) REFERENCES Associate_Info(Associate_Id),  
FOREIGN KEY (Question_Id) REFERENCES Questions(Question_Id),  
FOREIGN KEY (Module_Id) REFERENCES Module_Info(Module_Id));
```

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```
CREATE TABLE Login_Details(  
User_Id VARCHAR(20) UNIQUE PRIMARY KEY NOT NULL,  
User_Password VARCHAR(20) NOT NULL);
```

### Exercise.NO:2

```
INSERT INTO Trainer_Info(Trainer_Id, Salutation, Trainer_Name, Trainer_Location,  
Trainer_Track, Trainer_Qualification, Trainer_Experience, Trainer_Email,  
Trainer_Password)
```

```
VALUES ('F001', 'Mr.', 'PANKAJ GHOSH','Pune','Java','Bachelor of Technology', 12  
, 'Pankaj.Ghosh@alliance.com', 'fac1@123'),
```

```
('F002','Mr.','SANJAY RADHAKRISHNAN','Bangalore','DotNet','Bachelor of  
Technology',12,'Sanjay.Radhakrishnan@alliance.com','fac2@123'),
```

```
('F003','Mr.','VIJAY MATHUR','Chennai','Mainframe','Bachelor of  
Technology',10,'Vijay.Mathur@alliance.com','fac3@123'),
```

```
('F004','Mrs.','NANDINI NAIR','Kolkata','Java','Master of Computer  
Applications',9,'Nandini.Nair@alliance.com','fac4@123'),
```

```
('F005','Miss.','ANITHA PAREKH','Hyderabad','Testing','Master of Computer  
Applications',6,'Anitha.Parekh@alliance.com','fac5@123'),
```

```
('F006','Mr.','MANOJ AGRAWAL','Mumbai','Mainframe','Bachelor of  
Technology',9,'Manoj.Agrawal@alliance.com','fac6@123'),
```

```
('F007','Ms.','MEENA KULKARNI','Coimbatore','Testing','Bachelor of  
Technology',5,'Meena.Kulkarni@alliance.com','fac7@123'),
```

```
('F009','Mr.','SAGAR MENON','Mumbai','Java','Master of Science In Information  
Technology',12,'Sagar.Menon@alliance.com','fac8@123');
```

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```
INSERT INTO Batch_Info(Batch_Id, Batch_Owner, Batch_BU_Name)
VALUES('B001','MRS.SWATI ROY','MSP'),
('B002','MRS.ARURNA K','HEALTHCARE'),
('B003','MR.RAJESH KRISHNAN','LIFE SCIENCES'),
('B004','MR.SACHIN SHETTY','BFS'),
('B005','MR.RAMESH PATEL','COMMUNICATIONS'),
('B006','MRS.SUSAN CHERIAN','RETAIL & HOSPITALITY'),
('B007','MRS.SAMPADA JAIN','MSP'),
('B008','MRS.KAVITA REGE','BPO'),
('B009','MR.RAVI SEJPAL','MSP');
```

```
INSERT INTO Module_Info(Module_Id, Module_Name, Module_Duration)
VALUES ('O10SQL','Oracle 10g SQL',16),
('O10PLSQL','Oracle 10g PL/ SQL',16),
('J2SE','Core Java SE 1.6',288),
('J2EE','Advanced Java EE 1.6',80),
('JAVAFX','JavaFX 2.1',80),
('DOTNET4','.Net Framework 4.0',50),
('SQL2008','MS SQL Server 2008',120),
('MSBI08','MS BI Studio 2008',158),
('SHRPNT','MS Share Point',80),
('ANDRD4','Android 4.0',200),
('EM001','Instructor',0),
```

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```
('EM002','Course Material',0),  
('EM003','Learning Effectiveness',0),  
('EM004','Environment',0),  
('EM005','Job Impact',0),  
('TM001','Attendees',0),  
('TM002','Course Material',0),  
('TM003','Environment',0);
```

```
INSERT INTO Associate_Info(Associate_Id, Salutation, Associate_Name,  
Associate_Location, Associate_Track, Associate_Qualification, Associate_Email,  
Associate_Password)
```

```
VALUES ('A001','Miss.','GAYATHRI NARAYANAN','Gurgaon','Java','Bachelor of  
Technology','Gayathri.Narayanan@hp.com','tne1@123'),
```

```
('A002','Mrs.','RADHIKA MOHAN','Kerala','Java','Bachelor of Engineering In  
Information Technology','Radhika.Mohan@cognizant.com','tne2@123'),
```

```
('A003','Mr.','KISHORE SRINIVAS','Chennai','Java','Bachelor of Engineering In  
Computers','Kishore.Srinivas@ibm.com','tne3@123'),
```

```
('A004','Mr.','ANAND RANGANATHAN','Mumbai','DotNet','Master of Computer  
Applications','Anand.Ranganathan@finolex.com','tne4@123'),
```

```
('A005','Miss.','LEELA MENON','Kerala','Mainframe','Bachelor of Engineering In  
Information Technology','Leela.Menon@microsoft.com','tne5@123'),
```

```
('A006','Mrs.','ARTI KRISHNAN','Pune','Testing','Master of Computer  
Applications','Arti.Krishnan@cognizant.com','tne6@123'),
```

```
('A007','Mr.','PRABHAKAR SHUNMUGHAM','Mumbai','Java','Bachelor of  
Technology','Prabhakar.Shunmugham@honda.com','tne7@123');
```

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```
INSERT INTO Questions(Question_Id,Module_Id,Question_Text)
```

```
VALUES
```

```
('Q001','EM001','Instructor knowledgeable and able to handle all your queries'),
```

```
('Q002','EM001','All the topics in a particular course handled by the trainer  
without any gaps or slippages'),
```

```
('Q003','EM002','The course materials presentation, handson, etc. referred during  
the training are relevant and useful.'),
```

```
('Q004','EM002','The Hands on session adequate enough to grasp the  
understanding of the topic.'),
```

```
('Q005','EM002','The reference materials suggested for each module are  
adequate.'),
```

```
('Q006','EM003','Knowledge and skills presented in this training are applicatible at  
your work'),
```

```
('Q007','EM003','This training increases my proficiency level'),
```

```
('Q008','EM004','The physical environment e.g. classroom space, air-conditioning  
was conducive to learning.'),
```

```
('Q009','EM004','The software/hardware environment provided was sufficient for  
the purpose of the training.'),
```

```
('Q010','EM005','This training will improve your job performance.'),
```

```
('Q011','EM005','This training align with the business priorities and goals.'),
```

```
('Q012','TM001','Participants were receptive and had attitude towards learning.'),
```

```
('Q013','TM001','All participats gained the knowledge and the practical skills after  
this training.'),
```

```
('Q014','TM002','The course materials presentation, handson, etc. available for  
the session covers the entire objectives of the course.'),
```

```
('Q015','TM002','Complexity of the course is adequate for the particpate level.'),
```

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('Q016','TM002','Case study and practical demos helpful in understanding of the topic'),

('Q017','TM003','The physical environment e.g. classroom space, air-conditioning was conducive to learning. '),

('Q018','TM003','The software/hardware environment provided was adequate for the purpose of the training. ');

INSERT INTO

Associate\_Status(Associate\_Id,Module\_Id,Batch\_Id,Trainer\_Id,Start\_Date,End\_Date)

VALUES('A001','O10SQL','B001','F001','2000-12-15','2000-12-25'),

('A002','O10SQL','B001','F001','2000-12-15','2000-12-25'),

('A003','O10SQL','B001','F001','2000-12-15','2000-12-25'),

('A001','O10PLSQL','B002','F002','2001-2-1','2001-2-12'),

('A002','O10PLSQL','B002','F002','2001-2-1','2001-2-12'),

('A003','O10PLSQL','B002','F002','2001-2-1','2001-2-12'),

('A001','J2SE','B003','F003','2002-8-20','2002-10-25'),

('A002','J2SE','B003','F003','2002-8-20','2002-10-25'),

('A001','J2EE','B004','F004','2005-12-1','2005-12-25'),

('A002','J2EE','B004','F004','2005-12-1','2005-12-25'),

('A003','J2EE','B004','F004','2005-12-1','2005-12-25'),

('A004','J2EE','B004','F004','2005-12-1','2005-12-25'),

('A005','JAVAFX','B005','F006','2005-12-4','2005-12-20'),

('A006','JAVAFX','B005','F006','2005-12-4','2005-12-20'),

('A006','SQL2008','B006','F007','2007-6-21','2007-6-28'),

('A007','SQL2008','B006','F007','2007-6-21','2007-6-28'),



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```
('A002','MSBI08','B007','F006','2009-6-26','2009-6-29'),  
('A003','MSBI08','B007','F006','2009-6-26','2009-6-29'),  
('A004','MSBI08','B007','F006','2009-6-26','2009-6-29'),  
('A002','ANDRD4','B008','F005','2010-6-5','2010-6-28'),  
('A005','ANDRD4','B008','F005','2010-6-5','2010-6-28'),  
('A003','ANDRD4','B009','F005','2011-8-1','2011-8-20'),  
('A006','ANDRD4','B009','F005','2011-8-1','2011-8-20');
```

### Exercise.NO:3

```
SELECT *  
  
FROM Trainer_Info;
```

```
UPDATE Trainer_Info  
SET Trainer_Password = 'nn4@123'  
WHERE Trainer_Id = 'F004';
```

### Exercise.NO:4

```
SELECT *  
  
FROM Associate_Status;
```

```
DELETE FROM Associate_Status  
WHERE Associate_Id = 'A003' AND Module_Id = 'J2EE';
```

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### Exercise.NO:5

```
SELECT * FROM Trainer_info ORDER BY Trainer_experience DESC LIMIT 5;
```

### Exercise.NO:6

```
SELECT *  
FROM Login_Details;  
START TRANSACTION;  
INSERT INTO Login_Details(User_Id,User_Password)  
VALUES('U001','Admin1@123'),  
('U002','Admin2@123');  
ROLLBACK;  
SELECT *  
FROM Login_Details;
```

### Exercise.NO:7

```
CREATE USER 'ignesh'@'localhost' IDENTIFIED BY 'password1';  
GRANT CREATE ON hands_on TO 'ignesh'@'localhost';  
GRANT SELECT ON hands_on.Login_Details TO 'ignesh'@'localhost';  
SELECT *  
FROM Login_Details;  
START TRANSACTION;  
INSERT INTO Login_Details(User_Id,User_Password)  
VALUES('U001','Admin1@123'),  
('U002','Admin2@123');
```

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ROLLBACK;

SELECT \*

FROM Login\_Details;

REVOKE CREATE ON hands\_on FROM 'ignesh'@'localhost';

REVOKE SELECT ON hands\_on.Login\_Details FROM 'ignesh'@'localhost';

### **Exercise.NO:8**

DROP TABLE Login\_Details;

### **Exercise.NO:9**

CREATE TABLE Suppliers(

Supplier\_Id INTEGER NOT NULL,

Supplier\_Name VARCHAR(50) NOT NULL,

Address VARCHAR(50),

City VARCHAR(50),

State VARCHAR(50),

Zip\_Code VARCHAR(10));

### **Exercise.NO:10**

CREATE TABLE Course\_Fees(

Course\_Code INTEGER UNIQUE PRIMARY KEY NOT NULL,

Base\_Fees INTEGER,

Special\_fees INTEGER,

Discount INTEGER);

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```
CREATE TABLE Course_Fees_History(  
Course_Code INTEGER UNIQUE PRIMARY KEY NOT NULL,  
Base_Fees INTEGER,  
Special_fees INTEGER,  
Created_By VARCHAR(20),  
Updated_By VARCHAR(20));
```

```
INSERT INTO Course_Fees(Course_Code,Base_Fees,Special_fees,Discount)  
VALUES(1,180,100,10),  
(2,150,110,10),  
(3,160,170,5),  
(4,150,100,10),  
(6,190,100,40);
```

```
INSERT INTO  
Course_Fees_History(Course_Code,Base_Fees,Special_fees,Created_By,Updated_  
By)  
VALUES(1,120,123,'Ram','Ramesh'),  
(2,150,110,'Bala','Ram'),  
(3,160,170,'Bala','Vinu'),  
(4,170,235,'Ram','Ram'),  
(6,190,100,'Vinod','Vinod');
```

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```
SELECT Course_Code,Base_Fees,Special_fees
FROM course_fees
UNION
SELECT Course_Code,Base_Fees,Special_fees
FROM Course_Fees_History;
```

### **Exercise.NO:11**

```
SELECT COUNT(*)
FROM Course_Fees;
SELECT COUNT(DISTINCT(Course_Code))
FROM Course_Fees;
SELECT COUNT(DISTINCT(Base_Fees))
FROM Course_Fees;
SELECT COUNT(DISTINCT(Special_Fees))
FROM Course_Fees;
SELECT COUNT(*)
FROM Course_Fees_History;

SELECT COUNT(DISTINCT(Course_Code))
FROM Course_Fees_History;
SELECT COUNT(DISTINCT(Base_Fees))
FROM Course_Fees_History;
SELECT COUNT(DISTINCT(Special_Fees))
FROM Course_Fees_History;
```

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### **Exercise.NO:12**

```
CREATE TABLE Course_info(  
Course_Code VARCHAR(10) PRIMARY KEY,  
Course_Name VARCHAR(20) NOT NULL,  
Course_Description VARCHAR(25),  
Course_Start_date Date,  
Course_Duration INT,  
No_of_Participants INT,  
Course_type CHAR(3));
```

```
CREATE TABLE Student_Info(  
Student_Id VARCHAR(10) PRIMARY KEY,  
First_Name VARCHAR(20),  
Last_NAME VARCHAR(25),  
Address VARCHAR(150));
```

```
CREATE TABLE Course_info(  
Course_Code VARCHAR(10) PRIMARY KEY,  
Course_Name VARCHAR(20) NOT NULL,  
Course_Description VARCHAR(25),  
Course_Start_date Date,  
Course_Duration INT,  
No_of_Participants INT,  
Course_type CHAR(3));
```

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```
CREATE TABLE Student_Info(  
Student_Id VARCHAR(10) PRIMARY KEY,  
First_Name VARCHAR(20),  
Last_NAME VARCHAR(25),  
Address VARCHAR(150));
```

```
select * from course_fees;
```

```
INSERT INTO course_fees(Course_code,Base_fees,Special_fees,Discount)  
VALUES(11,NULL,150,50),  
(12,NULL,200,100),  
(13,300,350,120),  
(14,175,150,60);
```

```
SELECT MAX(Base_fees) FROM course_fees;  
SELECT MIN(Base_fees) FROM course_fees;INSERT INTO  
course_fees(Course_code,Base_fees,Special_fees,Discount)  
VALUES(11,NULL,150,50),  
(12,NULL,200,100),  
(13,300,350,120),  
(14,175,150,60);
```

```
SELECT MAX(Base_fees) FROM course_fees;  
SELECT MIN(Base_fees) FROM course_fees;
```

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### **Exercise.NO:13 & 14**

ALTER TABLE Course\_Fees

ADD COLUMN Infra\_Fees DECIMAL(5,3) NOT NULL

AFTER Special\_Fees;

UPDATE Course\_Fees SET Infra\_Fees = 45.751 WHERE Course\_Code = 1;

UPDATE Course\_Fees SET Infra\_Fees = 43.542 WHERE Course\_Code = 2;

UPDATE Course\_Fees SET Infra\_Fees = 42.453 WHERE Course\_Code = 3;

UPDATE Course\_Fees SET Infra\_Fees = 41.456 WHERE Course\_Code = 4;

UPDATE Course\_Fees SET Infra\_Fees = 47.564 WHERE Course\_Code = 5;

UPDATE Course\_Fees SET Infra\_Fees = 41.678 WHERE Course\_Code = 6;

UPDATE Course\_Fees SET Infra\_Fees = 48.432 WHERE Course\_Code = 7;

UPDATE Course\_Fees SET Infra\_Fees = 40.258 WHERE Course\_Code = 8;

UPDATE Course\_Fees SET Infra\_Fees = 45.712 WHERE Course\_Code = 9;

SELECT AVG(Infra\_fees) FROM course\_fees;

### **Exercise.NO:15**

SELECT CONCAT('<',Course\_Name,'><',Course\_code,'>')

FROM Course\_Info;

### **Exercise.NO:16**

SELECT AVG(IFNULL(Base\_Fees,0)) FROM Course\_Fees;



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### **Exercise.NO:17**

```
select * from course_info;
```

```
ALTER TABLE Course_info ADD message VARCHAR(30);
```

```
INSERT INTO course_info(Course_code,Course_Name,Course_Type,message)
VALUES('ST111','xx','CLR','Class Room'),
('ST112','YY','EL','ELearning'),
('ST113','ZZ','OF','Offline Reading');
```

```
select course_type,message from course_info
where Course_type in ('CLR','EL','OF');
```

### **Exercise.NO:18**

```
select Course_Start_date, sum(No_of_Participants)as No_of_Participants
from course_info group by Course_Start_date;
```

### **Exercise.NO:19**

```
select course_start_date, sum(No_of_Participants)as No_of_Participants
from course_info where Course_type='CLR' group by course_start_date;
```

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### Exercise.NO:20

```
select course_start_date, sum(No_of_Participants)as No_of_Participants
from course_info where Course_type='CLR' group by course_start_date
having sum(No_of_Participants)>10;
```

### Exercise.NO:21

```
select Course_Name from course_info order by Course_Duration;
```

### Exercise.NO:22

```
SELECT student_info.student_id,student_info.first_name,student_info.last_name,
course_info.course_code FROM student_info INNER JOIN course_info ON
student_info.course_code WHERE student_info.course_code='167';
```

### Exercise.NO:23

```
SELECT course_fees.discount, course_info.course_description FROM course_fees
INNER JOIN course_info ON course_info.course_code=course_fees.course_code;
```

### Exercise.NO:24

```
INSERT INTO student_info VALUES ('11','st09','varun','india');
```

```
SELECT student_info.first_name,course_info.course_code FROM student_info
LEFT JOIN
course_info ON student_info.course_code=course_info.course_code;
```

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```
SELECT student_info.first_name, course_info.course_code FROM course_info  
RIGHT JOIN
```

```
student_info ON student_info.course_code=course_info.course_code;
```

### Exercise.NO:25

```
SELECT * FROM course_fees;
```

```
INSERT INTO course_info VALUES ('ST11','I','ML','2021-01-01','50','1','CLR','Class  
Room'),('ST12','M','AI','2020-02-11',30,1,'EL','ELearning');
```

```
INSERT INTO course_fees VALUES  
('ST11','1020','100','10','10'),('ST12','900','300','50','15');
```

```
INSERT INTO student_info VALUES (2,'ST11','VARUN','RAJ','UP');
```

```
INSERT INTO student_info VALUES (3,'ST12','RAJ','JU','MP');
```

```
SELECT DISTINCT student_info.student_id FROM student_info INNER JOIN  
course_fees
```

```
ON student_info.course_code=course_fees.course_code WHERE
```

```
((base_feest+special_feestinfra_fees)*(1-discount/100))<1500;
```

### Exercise.NO:26

```
SELECT DISTINCT student_info.student_id,student_info.first_name FROM  
student_info
```

```
INNER JOIN course_fees ON student_info.course_code=course_fees.course_code  
WHERE
```

```
((base_feest+special_feestinfra_fees)*(1-discount/100))<1500;
```