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SQL HANDS ON SOLUTIONS

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Programmer Analyst
CDB22DW022

```
CREATE DATABASE hands on;
USE hands_on;
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);
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),
Start Date VARCHAR(20),
End_Date VARCHAR(20),
AFeedbackGiven VARCHAR(20),
TFeedbackGiven VARCHAR(20),
FOREIGN KEY (Associate_Id) REFERENCES Associate_Info(Associate_Id),
FOREIGN KEY (Module_Id) REFERENCES Module_Info(Module_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));
CREATE TABLE Login Details(
User_Id VARCHAR(20) UNIQUE PRIMARY KEY NOT NULL,
User_Password VARCHAR(20) NOT NULL);
DESCRIBE Trainer_Info;
DESCRIBE Batch_Info;
DESCRIBE Module Info;
DESCRIBE Associate Info;
DESCRIBE Questions;
DESCRIBE Associate Status;
```

DESCRIBE Trainer_Feedback;

DESCRIBE Associate_Feedback;

DESCRIBE Login_Details;

ALTER TABLE Associate_Status

ADD Batch_Id VARCHAR(20) AFTER Module_ID,

ADD Trainer_Id VARCHAR(20) AFTER Batch_Id,

ADD FOREIGN KEY (Batch_Id) REFERENCES Batch_Info(Batch_Id),

ADD FOREIGN KEY (Trainer_Id) REFERENCES Trainer_Info(Trainer_Id);

```
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');
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),
('DOTNT4','.Net Framework 4.0',50),
('SQL2008','MS SQI Server 2008',120),
('MSBI08','MS BI Studio 2008',158),
('SHRPNT','MS Share Point',80),
('ANDRD4','Android 4.0',200),
('EM001','Instructor',0),
('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');

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. refered 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.'),
('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'),

```
('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'),
```

```
SELECT *

FROM Trainer_Info;

UPDATE Trainer_Info

SET Trainer_Password = 'nn4@123'

WHERE Trainer_Id = 'F004';
```

Exersice 4

SELECT *

FROM Associate_Status;

DELETE FROM Associate_Status

WHERE Associate_Id = 'A003' AND Module_Id = 'J2EE';

Exersice 5

SELECT *

FROM Trainer_Info

ORDER BY Trainer_Experience DESC

LIMIT 5;

```
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;
```

```
CREATE USER 'tenzing'@'localhost' IDENTIFIED BY 'password1';
GRANT CREATE ON hands_on TO 'tenzing'@'localhost';
GRANT SELECT ON hands_on.Login_Details TO 'tenzing'@'localhost';
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;
REVOKE CREATE ON hands_on FROM 'tenzing'@'localhost';
REVOKE SELECT ON hands on.Login Details FROM 'tenzing'@'localhost';
```

Exersice 8

DROP TABLE Login_Details;

```
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));
```

```
CREATE TABLE Course_Fees(

Course_Code INTEGER UNIQUE PRIMARY KEY NOT NULL,

Base_Fees INTEGER,

Special_fees INTEGER,

Discount INTEGER);

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');
SELECT Course_Fees.Course_Code,Course_Fees.Base_Fees,Course_Fees.Special_Fees
FROM Course Fees
INNER JOIN Course Fees History
ON Course_Fees.Course_Code = Course_Fees_History.Course_Code
WHERE Course_Fees.Base_Fees != Course_Fees_History.Base_Fees
OR Course_Fees.Special_Fees != Course_Fees_History.Special_Fees;
Exersice 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;
```

```
CREATE TABLE Course_Info(

Course_Code INTEGER UNIQUE PRIMARY KEY NOT NULL,

Course_Name VARCHAR(20) NOT NULL,

Course_Description VARCHAR(25),

Course_Start_Date DATE,

Course_Duration INTEGER,

No_of_Participants INTEGER,

Course_Type CHAR(3));

CREATE TABLE Student_Info(

Student_Id VARCHAR(10) UNIQUE PRIMARY KEY NOT NULL,

Course_Code INTEGER,
```

```
First_name VARCHAR(20),
Last_name VARCHAR(25),
Address VARCHAR(150));

INSERT INTO Course_Fees(Course_Code,Base_Fees,Special_Fees,Discount)

VALUES(7,NULL,110,15),
(8,NULL,115,25),
(9,300,184,20),
(10,175,190,25);

SELECT MIN(Base_fees) AS Min_Base_Fees, MAX(Base_fees) AS Max_Base_Fees
FROM Course_fees;
```

```
ALTER TABLE Course_Fees

ADD COLUMN Infra_Fees DECIMAL(5,3) NOT NULL

AFTER Special_Fees;

UPDATE Course_Fees SET Infra_Fees = 45.952 WHERE Course_Code = 1;

UPDATE Course_Fees SET Infra_Fees = 43.875 WHERE Course_Code = 2;

UPDATE Course_Fees SET Infra_Fees = 42.562 WHERE Course_Code = 3;

UPDATE Course_Fees SET Infra_Fees = 40.158 WHERE Course_Code = 4;

UPDATE Course_Fees SET Infra_Fees = 42.987 WHERE Course_Code = 6;

UPDATE Course_Fees SET Infra_Fees = 45.663 WHERE Course_Code = 7;

UPDATE Course_Fees SET Infra_Fees = 44.777 WHERE Course_Code = 8;

UPDATE Course_Fees SET Infra_Fees = 40.258 WHERE Course_Code = 9;

UPDATE Course_Fees SET Infra_Fees = 43.671 WHERE Course_Code = 10;
```

```
SELECT AVG(Infra_Fees)
FROM Course_Fees;
```

```
INSERT INTO
```

```
Course_Info(Course_Code,Course_Name,Course_Description,Course_Start_Date,Course_Duration,No of Participants,Course Type)
```

VALUES (1,'SQL1','HandsOn SQL1','2022-10-01',2,5,'CLR'),

```
(2,'SQL2','HandsOn SQL2','2022-10-10',2,10,'EL'),
```

(3,'SQL3','HandsOn_SQL3','2022-10-15',2,25,'OF'),

(4,'Python1','HandsOn_Python1','2022-10-01',5,5,'CLR'),

(6, 'Python2', 'HandsOn_Python2', '2022-10-10', 5, 10, 'EL'),

(7,'Python3','HandsOn Python3','2022-10-15',5,25,'OF'),

(8,'SPSS1','HandsOn_SPSS1','2022-10-01',3,5,'CLR'),

(9,'SPSS2','HandsOn SPSS2','2022-10-10',3,10,'EL'),

(10,'SPSS3','HandsOn SPSS3','2022-10-15',3,25,'OF'),

(165, 'AWS1', 'HandsOn_AWS1', '2022-10-01', 7,5, 'CLR'),

(166, 'AWS2', 'HandsOn_AWS2', '2022-10-10', 7, 10, 'EL'),

(167, 'AWS3', 'HandsOn_AWS3', '2022-10-15', 7, 25, 'OF');

SELECT Course_Name,DATEDIFF(Course_Start_Date,CURDATE())

FROM Course Info;

```
SELECT CONCAT('<',Course_Name,'><',Course_code,'>')
FROM Course_Info;
```

Exersice 16

```
SELECT AVG(IFNULL(Base_Fees,0))
FROM Course_Fees;
```

Exersice 17

```
SELECT Course_Type,

CASE WHEN Course_Type = 'CLR' THEN 'Class Room'

WHEN Course_Type = 'EL' THEN 'ELearning'

ELSE 'Offline Reading'

END AS Message

FROM Course_Info;
```

```
SELECT Course_Start_Date, SUM(No_of_Participants)
FROM Course_Info
GROUP BY Course_Start_Date
HAVING Course Start Date = '2022-10-15';
```

```
SELECT Course_Start_Date, SUM(No_of_Participants)

FROM Course_Info

WHERE Course_Type = 'CLR'

GROUP BY Course_Start_Date;
```

Exersice 20

```
SELECT Course_Start_Date, SUM(No_of_Participants)

FROM Course_Info

WHERE Course_Type = 'CLR'

GROUP BY Course Start Date;
```

Exersice 21

```
SELECT Course_Name
FROM Course_Info
ORDER BY Course_Duration ASC;
```

```
INSERT INTO Student_Info(Student_Id, Course_code,First_Name,Last_Name,Address)

VALUES('ST01',1,'Ram','Sundar','123AD'),

('ST02',2,'Maria','Kins','1578DF'),

('ST03',3,'Babu','Roa','784TR'),

('ST04',6,'Roy','Betti','456GE'),

('ST05',6,'Abi','Vader','784YF'),
```

```
('ST06',167,'Cena','Roy','528YGR'),
('ST07',167,'John','Cena','123TR'),
('ST08',1,'Rey','Mysterio','754KU'),
('ST09',8,'Nancy','Theo','963LIY'),
('ST10',10,'Ted','Frank','963PLI'),
('ST11',165,'Yugan','Sundar','741RTY'),
('ST12',8,'Jose','Baby','951WDV'),
('ST13',10,'Susai','Ignesh','753MKJ'),
('ST14',6,'Pavithra','Jose','578TGB'),
('ST15',166,'Auxi','Jossie','657ZDC');

SELECT Student_Id,First_Name,Last_Name,Student_info.Course_Code
FROM Student_Info
INNER JOIN Course_Info
ON Student_Info.Course_Code = Course_Info.Course_Code
WHERE Student_Info.Course_Code = 167;
```

```
SELECT *
FROM Course_Fees;

INSERT INTO Course_Fees(Course_Code,Base_fees,Special_fees,Infra_Fees,Discount)
VALUES(165,2000, 1580, 99.500, 5),
(166,2200,1600,99.050,10),
(167,2250,1550,99.900,5);
```

```
SELECT Course_Info.Course_Code,Discount,Course_Description
FROM Course_Info
INNER JOIN Course_Fees
ON Course_Fees.Course_Code = Course_Info.Course_Code;
```

```
SELECT CONCAT(First_Name,'_<',Course_Info.Course_Code,'>') AS Student_Record
FROM Student_Info

LEFT JOIN Course_Info

ON Student_Info.Course_Code = Course_Info.Course_Code;

SELECT CONCAT(First_Name,'_<',Course_Info.Course_Code,'>') AS Student_Record
FROM Student_Info

RIGHT JOIN Course_Info

ON Student_Info.Course_Code = Course_Info.Course_Code;
```

Exersice 25

SELECT *
FROM Course_Info;
SELECT *
FROM Student_Info;

```
INSERT INTO
Course Info(Course Code,Course Name,Course Description,Course Start Date,Course Durati
on, No of Participants, Course Type)
VALUES (168, GCP1', 'HandsOn GCP1', '2022-11-01', 3,5, 'CLR'),
(169, GCP2', HandsOn_GCP2', 2022-11-10', 2, 10, EL');
INSERT INTO Student Info(Student Id, Course code, First Name, Last Name, Address)
VALUES('ST16',1,'Abijith','Ponni','852LKJ'),
('ST17',169,'Reno','Noel','357YHN');
INSERT INTO Course_Fees(Course_Code,Base_fees,Special_fees,Infra_Fees,Discount)
VALUES(168,2000, 1580, 99.500, 5),
(169,220,160,99.050,10);
SELECT Student Id
FROM Student Info
WHERE Course_Code IN (SELECT Course_Code
FROM Course Fees
WHERE ((Base Fees+Special Fees+Infra Fees)*(1-Discount/100)) < 1500);
```

```
SELECT Student_Id, CONCAT(First_Name,' ',Last_Name) AS Student_Name
FROM Student_Info
WHERE Course_Code IN (SELECT Course_Code
FROM Course_Fees
WHERE ((Base_Fees+Special_Fees+Infra_Fees)*(1-Discount/100)) < 1500);
```