Exercise 1.1

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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:  Demonstrate How to Create Tables |
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Problem Statement:

You have to create all tables whose structure is as mentioned below:

|  |  |  |  |
| --- | --- | --- | --- |
| Trainer\_Info | | | |
| Field | Description | Type | Size |
| Trainer\_Id | Unique ID to every trainer | Character | 20 |
| Salutation | Salutation of trainer | Character | 7 |
| Trainer\_Name | Name of trainer | Character | 30 |
| Trainer\_Location | Location of trainer | Character | 30 |
| Trainer\_Track | Track of trainer e.g. JAVA, .Net, Mainframe | Character | 15 |
| Trainer\_Qualification | Qualification of trainer e.g. MCA,B. Tech | Character | 100 |
| Trainer\_Experiance | Experience of trainer e.g .2,4 years | Integer | 11 |
| Trainer\_Email | Email Id of trainer | Character | 100 |
| Trainer\_Password | Login password of Trainer | Character | 20 |

|  |  |  |  |
| --- | --- | --- | --- |
| Batch\_Info | | | |
| Field | Description | Type | Size |
| Batch\_Id | Unique ID to every batch | Character | 20 |
| Batch\_Owner | Batch owner name | Character | 30 |
| Batch\_BU\_Name | Business unit to which batch belongs | Character | 30 |

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| --- | --- | --- | --- |
| Module\_Info | | | |
| Field | Description | Type | Size |
| Module\_Id | Unique ID to every module e.g J2SE, J2EE | Character | 20 |
| Module\_Name | Name of module e.g. Core Java SE 1.6 | Character | 40 |
| Module\_Duration | Duration in hours | Integer | 11 |

|  |  |  |  |
| --- | --- | --- | --- |
| Associate\_Info | | | |
| Field | Description | Type | Size |
| Associate\_Id | Unique ID to every associate | Character | 20 |
| Salutation | Salutation of associate | Character | 7 |
| Associate\_Name | Name of associate | Character | 30 |
| Associate\_Location | Location of associate | Character | 30 |
| Associate\_Track | Track of associate e.g. JAVA, .Net, Mainframe | Character | 15 |
| Associate\_Qualification | Qualification of associate e.g. MCA,B. Tech | Character | 200 |
| Associate\_Email | Email Id of associate | Character | 100 |
| Associate\_Password | Login password of associate | Character | 20 |

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| --- | --- | --- | --- |
| Questions | | | |
| Field | Description | Type | Size |
| Question\_Id | Unique ID to every question | Character | 20 |
| Module\_Id | Module id from module | Character | 20 |
| Question\_Text | Actual feedback question | Character | 900 |

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| --- | --- | --- | --- |
| Associate\_Status | | | |
| Field | Description | Type | Size |
| Associate\_Id | Associate Id from associate\_Info | Character | 20 |
| Module\_Id | Module Id from module | Character | 20 |
| Start\_Date | Date when associate batch started | Character | 20 |
| End\_Date | Date when associate batch ended | Character | 20 |
| AFeedbackGiven | Flag to test whether Associate has given feedback or not | Character | 20 |
| TFeedbackGiven | Flag to test whether Trainer has given feedback or not | Character | 20 |

|  |  |  |  |
| --- | --- | --- | --- |
| Trainer\_Feedback | | | |
| Field | Description | Type | Size |
| Trainer\_Id | Trainer Id from trainer\_Info | Character | 20 |
| Question\_Id | Question Id from Questions | Character | 20 |
| Batch\_Id | Batch Id from batch\_Info | Character | 20 |
| Module\_Id | Module Id from module | Character | 20 |
| Trainer\_Rating | Rating given by trainer for a particular question | Integer | 11 |

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| --- | --- | --- | --- |
| Associate\_Feedback | | | |
| Field | Description | Type | Size |
| Associate\_Id | Associate Id from associate\_Info | Character | 20 |
| Question\_Id | Question Id from Questions | Character | 20 |
| Module\_Id | Module Id from module | Character | 20 |
| Associate\_Rating | Rating given by associate for a particular question | Integer | 11 |

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| --- | --- | --- | --- |
| Login\_Details | | | |
| Field | Description | Type | Size |
| User\_Id | User id for login | Character | 20 |
| User\_Password | Password to authenticate user | Character | 20 |

Deliverables Expected:

All Tables creation as per details mentioned above

Exercise 1.2

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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:  Insert data into tables |
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Problem Statement:

Insertbelow details into table:

Trainer\_Info

Trainer\_Id,Salutation,Trainer\_Name,Trainer\_Location,Trainer\_Track,Trainer\_Qualification,Trainer\_Experiance,Trainer\_Email,Trainer\_Password

F001,Mr.,JOHN,Toronto,Java,Bachelor of Technology,12,John@alliance.com,fac1@123

F002,Mr.,Mike ,Chicago,DotNet,Bachelor of Technology,12,Mike@alliance.com,fac2@123

F003,Mr.,Jacob,Washington,Mainframe,Bachelor of Technology,10,Jacob@alliance.com,fac3@123

F004,Mrs.,Teena,Mexico,Java,Master of Computer Applications,9,Teena@alliance.com,fac4@123

F005,Miss.,Jeni,Boston,Testing,Master of Computer Applications,6,Jeni@alliance.com,fac5@123

F006,Mr., William, New York City,Mainframe,Bachelor of Technology,9, William @alliance.com,fac6@123

F007,Ms.,Jessi,Los Angeles,Testing,Bachelor of Technology,5,Jessi@alliance.com,fac7@123

F008,Mr.,Ryan , New York City,Java,Master of Science In Information Technology,12,Ryan@alliance.com,fac8@123

Batch\_Info

Batch\_Id,Batch\_Owner,Batch\_BU\_Name

B001,MRS.Bella,MSP

B002,MRS.Alexa,HEALTHCARE

B003,MR.Luke,LIFE SCIENCES

B004,MR.Carter,BFS

B005,MR.Jack,COMMUNICATIONS

B006,MRS.Lucy,RETAIL & HOSPITALITY

B007,MRS.Eva,MSP

B008,MRS.Maria,BPO

B009,MR.Henry,MSP

Module\_Info

Module\_Id,Module\_Name,Module\_Duration

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 SQl 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

Associate\_Info

Associate\_Id,Salutation,Associate\_Name,Associate\_Location,Associate\_Track,Associate\_Qualification,Associate\_Email,Associate\_Password

A001,Miss.,Julia,Toronto,Java,Bachelor of Technology,Julia@hp.com,tne1@123

A002,Mrs.,Anna,Chicago,Java,Bachelor of Engineering In Information Technology,Anna@abc.com,tne2@123

A003,Mr.,Daniel,Washington,Java,Bachelor of Engineering In Computers,daniel@ibm.com,tne3@123

A004,Mr.,Andrew,New York City,DotNet,Master of Computer Applications,Andrew@finolex.com,tne4@123

A005,Miss.,Sofia,Chicago,Mainframe,Bachelor of Engineering In Information Technology,Sofia@microsoft.com,tne5@123

A006,Mrs.,Lily,Toronto,Testing,Master of Computer Applications,Lily@cogn

abc.com,tne6@123

A007,Mr.,Mason, New York City,Java,Bachelor of Technology,Mason@honda.com,tne7@123

Questions

Question\_Id,Module\_Id,Question\_Text

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 applicable 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 participants 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 participate 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.

Associate\_Status

Associate\_Id,Module\_Id,Batch\_Id,Trainer\_Id,Start\_Date,End\_Date

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

A006,ANDRD4,B009,F005,2011-8-1,2011-8-20

Deliverables Expected:

All records inserted in tables

Exercise 1.3

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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:  Implementing how to apply various integrity constraints |
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Problem Statement:

Apply all Integrity constraint as given below:

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| --- | --- | --- | --- | --- |
| **Trainer\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Trainer\_Id** | NULL | PRIMARY KEY | NO | Starts with 'F' |
| **Salutation** | NULL |  | NO |  |
| **Trainer\_Name** | NULL |  | NO |  |
| **Trainer\_Location** | NULL |  | NO |  |
| **Trainer\_Track** | NULL |  | NO |  |
| **Trainer\_Qualification** | NULL |  | NO |  |
| **Trainer\_Experiance** | NULL |  | YES |  |
| **Trainer\_Email** | NULL |  | NO |  |
| **Trainer\_Password** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Batch\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Batch\_Id** | NULL | PRIMARY KEY | NO | Starts with 'B' |
| **Batch\_Owner** | NULL |  | NO |  |
| **Batch\_BU\_Name** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Module\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Module\_Id** | NULL | PRIMARY KEY | NO | Must be in Upper Case |
| **Module\_Name** | NULL |  | NO |  |
| **Module\_Duration** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Associate\_Info** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | PRIMARY KEY | NO | Starts with 'A' |
| **Salutation** | NULL |  | NO |  |
| **Associate\_Name** | NULL |  | NO |  |
| **Associate\_Location** | NULL |  | NO |  |
| **Associate\_Track** | NULL |  | NO |  |
| **Associate\_Qualification** | NULL |  | NO |  |
| **Associate\_Email** | NULL |  | NO |  |
| **Associate\_Password** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Questions** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Question\_Id** | NULL | PRIMARY KEY | NO | Starts with 'Q' |
| **Module\_Id** | NULL | FOREIGN KEY | YES |  |
| **Question\_Text** | NULL |  | NO |  |

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| --- | --- | --- | --- | --- |
| **Associate\_Status** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Batch\_Id** | NULL | FOREIGN KEY | NO |  |
| **Trainer\_Id** | NULL | FOREIGN KEY | NO |  |
| **Start\_Date** | NULL |  | YES |  |
| **End\_Date** | NULL |  | YES |  |
| **AFeedbackGiven** | NULL |  | YES |  |
| **TFeedbackGiven** | NULL |  | YES |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Trainer\_Feedback** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Trainer\_Id** | NULL | FOREIGN KEY | NO |  |
| **Question\_Id** | NULL | FOREIGN KEY | NO |  |
| **Batch\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Trainer\_Rating** | NULL |  | NO |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Associate\_Feedback** | | | | |
| **Field** | **Default** | **Key** | **Null** | **Check** |
| **Associate\_Id** | NULL | FOREIGN KEY | NO |  |
| **Question\_Id** | NULL | FOREIGN KEY | NO |  |
| **Module\_Id** | NULL | FOREIGN KEY | NO |  |
| **Associate\_Rating** | NULL |  | NO |  |

Deliverables Expected:

Data integrity across all table structures.

Exercise 1.4

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| Hands-on Exercise Objective |
| After completing the hands-on exercises, you will be able to:  Disable keys |
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Problem Statement:

Consider another scenario, create following two table in database

Table

Name: product

Column: productID int(10) primary key

Column: productname varchar(20)

Column: productprice int(5) not null

Table

Name: user

Column: userID varchar(10) primary key

Column: productID int(10) references product(productID)

Column: username varchar(20)

Insert below records into the product table

* productID, productname, productprice
  + 1,'A Dongle',290
  + 2,'B Dongle',1250
* productID,productname
  + 3,'C Dongle'

Now disable foreign key on user table.

Insert below records into the user table

* userID, productID, username
  + 'U001',1,'Luke'
  + 'U002',11,'Raul'

Verify whether second record is inserted properly, justify the reason if yes or not.

Enable key again on user table.

Deliverables Expected:

Disabling key adds inconsistent data in table, which must be updated carefully.