**Assignment 3:**

**Step: 1 Table Instance Chart (6 tables)**

**Table: – ORDERS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column**  **Names** | **OrderID** | **CustomerID** | **OrderDate** | **OrderTotal** |
| **PK/FK** | **PK** | **FK** |  |  |
| **NN/UK** |  | **NN** | **NN** | **NN** |
| REF\_TABLE |  | **Customer** |  |  |
| REF\_PK |  | **Customer\_id** |  |  |
| Validation |  |  |  |  |
| DataType | **Number** | **Number** | **TimeStamp** | **Number** |
| Max Length | **7** | **8** | **0** | **10,2** |
| Sample data | **1234567** | **12345678** |  | **3022** |
| Sample data | **1234568** | **12345679** |  | **2027** |
| Sample data | **1234569** | **12345680** |  | **1055** |

**Table: – OrderLines**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column**  **Names** | **LineNUm** | **OrderID** | **RecordingID** | **Qty** | **ActPrice** |
| **PK/FK** | **PK** | **PK,FK** | **FK** |  |  |
| **NN/UK** |  |  |  | **NN,CK** | **NN,CK** |
| REF\_TABLE | **OrderLIne** | **Order** | **Recording** |  |  |
| REF\_PK | **Line#** | **OrderID** | **RecordingID** |  |  |
| Validation |  |  |  | **>0** | **>0** |
| DataType | **Number** | **Number** | **Number** | **Integer** | **Number** |
| Max Length | **7** | **5** | **6** | **5** | **5** |
| Sample data | **2018001** | **27200** | **856007** | **56** | **12$** |
| Sample data | **2018003** | **26521** | **902305** | **7** | **17$** |
| Sample data | **2018005** | **50042** | **2792301** | **42** | **23$** |

**Table: – Payments**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Column**  **Names** | **CardNum** | **OrderID** | **ExpDate** | **CardHolder** | **CardType** |
| **PK/FK** | **PK** | **PK,FK** |  |  |  |
| **NN/UK** |  |  | **NN** | **NN** | **NN, CK** |
| REF\_TABLE | **Payment** | **Orders** |  |  |  |
| REF\_PK | **CardNum** | **Order\_id** |  |  |  |
| Validation |  |  |  |  | **In (A,D,M,V)** |
| DataType | **Number** | **Number** | **date** | **Varchar** | **char** |
| Max Length | **11** | **8** | **0** | **15** | **1** |
| Sample data | **98765412305** | **20180001** | **05/18** | **Fenil Shah** | **A** |
| Sample data | **98765492516** | **20180002** | **0622** | **Cao** | **D** |
| Sample data | **98765412305** | **12345680** | **0718** | **Riken** | **M** |

**Table: – RecordHistories**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Column**  **Names** | **Price#** | **RecordingID** | **StartDate** | **Price** |
| **PK/FK** | **PK** | **PK,FK** |  |  |
| **NN/UK** |  |  | **NN** | **NN, CK** |
| REF\_TABLE | **RecordHistory** | **Recording** |  |  |
| REF\_PK | **Price#** | **RecordingId** |  |  |
| Validation |  |  |  | **>0** |
| DataType | **Number** | **Number** | **date** | **Number** |
| Max Length | **5** | **7** | **0** | **15** |
| Sample data | **27** | **20180001** | **27/04/2012** | **56$** |
| Sample data | **28** | **20180002** | **21/03/1998** | **28$** |
| Sample data | **29** | **12345680** | **23/09/2005** | **107$** |

**Table: – RECODINGS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Column**  **Names** | **RecordingID** | **CategoryID** | **LabelID** | **Title** | **Artist** | **SellPrice** | **QtyInStock** |
| **PK/FK** | **PK** | **FK1** | **FK2** |  |  |  |  |
| **NN/UK** |  |  |  | **NN** | **NN** | **NN,CK** | **CK** |
| REF\_TABLE | **Recording** | **Category** | **label** |  |  |  |  |
| REF\_PK | **RecordingID** | CategoryId | LabelId |  |  |  |  |
| Validation |  |  |  |  |  | **>0** | **>0** |
| DataType | **Number** | **Number** | **Number** | **Varchar** | **Varchar** | **Number** | **Integer** |
| Max Length | **7** | **5** | **6** | **25** | **20** | **6** | **6** |
| Sample data | **2018001** | **27200** | **856007** | **The Love** | **Rehman** | **52.0** | **55** |
| Sample data | **2018003** | **26521** | **902305** | **NightMusic** | **SteveJobs** | **36.55** | **03** |
| Sample data | **2018005** | **50042** | **2792301** | **Roumours** | **MarkJ** | **96.42** | **27** |

**Table: – SALESREP**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Column**  **Names** | **Rep#** | **RegionID** | **LabelID** | **LastName** | **FirstName** | **Phone#** | **Email** |
| **PK/FK** | **PK** | **FK** | **PK,FK** |  |  |  |  |
| **NN/UK** |  | **NN** |  | **NN** | **NN** | **NN,UK** | **UK** |
| REF\_TABLE | **SalesRep** | **Region** | **label** |  |  |  |  |
| REF\_PK | **Rep#** | **RegionID** | **LabelId** |  |  |  |  |
| Validation |  |  |  |  |  |  |  |
| DataType | **Number** | **Number** | **Number** | **Varchar** | **Varchar** | **Number** | **varchar** |
| Max Length | **7** | **7** | **6** | **10** | **10** | **10** | **25** |
| Sample data | **2018001** | **27200** | **856007** | **Shah** | **Fenil** | **6472981234** | **fenilshah@falana.com** |
| Sample data | **2018003** | **26521** | **902305** | **Patel** | **John** | **4167893692** | **pateljohn@my.com** |
| Sample data | **2018005** | **50042** | **2792301** | **Smith** | **Mark** | **3026419874** | **smithmark@sm.com** |

**Step: 2 and 3 DDL Scripts (10 tables)**

**Table 1: orders**

**create table orders(**

**OrderID number(7),**

**OrderDate TIMESTAMP not null,**

**OrderTotal number(8) not null,**

**CustomerID number(8) not null);**

**Alter table orders**

**Add constraint oi\_pk Primary Key (OrderID);**

**Alter table orders**

**Add constraint cID\_fk Foreign key (CustomerID) references Customer(CustomerID);**

**Table 2: Payments**

create table payments(

cardNum number(11),

Orderid number(7),

ExpDate date not null,

CardHolder varchar(15) not null,

CardType varchar(10) not null constraint CHe\_CHK CHECK (CardType IN ('A','D','M','V')) );

//

ALTER TABLE Payments

ADD CONSTRAINT cardOrd\_PK PRIMARY KEY (cardNum, orderid);

ALTER TABLE Payments

ADD CONSTRAINT orderID\_FK FOREIGN KEY(OrderID) references Orders(OrderID);

**Table 3: Customer**

**create table customer(**

**customer\_id number(10) ,**

**last\_name varchar(20) not null,**

**first\_name varchar(20) not null,**

**dob date,**

**Address varchar(25),**

**city varchar(10) not null,**

**province varchar(2) not null,**

**postal\_code varchar(6) not null,**

**email varchar(25) constraint em\_uk UNIQUE);**

**//adding primary key with alter statement**

**alter table customer**

**ADD constraint id\_pk PRIMARY KEY(customer\_id)**

**Table 4: OrderLines**

**create table orderlines(**

**OrderID number(5),**

**Line# number(7),**

**Qty number(5) constraint qto\_ck check( Qty > 0) not null,**

**ActPrice Number(5,2) constraint Pro\_ck check( ActPrice > 0) not null,**

**recordingID number(6)not null);**

**ALTER TABLE OrderLines**

**ADD CONSTRAINT orderslines\_PK PRIMARY KEY (OrderID, Line#);**

**ALTER TABLE OrderLines**

**ADD CONSTRAINT orderIDo\_FK FOREIGN KEY (OrderID) REFERENCES Orders(OrderID);**

**Table 5: Recording**

**create table recordings(**

**RecordingID number(7),**

**CategoryID number(5) not null,**

**LabelID number(6) not null,**

**Title varchar(25) not null,**

**Artist varchar(20) not null,**

**SellPrice Number(6,2) constraint sp\_ck CHECK(SellPrice > 0) not null,**

**QtyInStock number(10)**

**)**

**ALTER TABLE Recordings**

**ADD CONSTRAINT RecordingsID\_PK PRIMARY KEY (RecordingID);**

**ALTER TABLE Recordings**

**ADD CONSTRAINT CategoryID\_FK FOREIGN KEY (CategoryID) references Category(CategoryID);**

**Alter table recordings**

**ADD CONSTRAINT LabeID\_FK FOREIGN KEY (LabelID)**

**REFERENCES Label(LabelID);**

**Table 6: Recordhistories**

**create table RecordHistories(**

**RecordingID number(7),**

**Price# number(5),**

**startDate date not null,**

**Price Number(15,2) constraint RCDp\_ck CHECK(Price > 0));**

**ALTER TABLE RecordHistories**

**ADD CONSTRAINT Price\_RecID\_PK PRIMARY KEY (Price#, RecordingID);**

**ALTER TABLE RecordHistories**

**ADD CONSTRAINT RecordingID\_FK FOREIGN KEY (RecordingID) REFERENCES Recordings(RecordingID);**

**Table 7: Category**

**create table category(**

**CategoryID number(10),**

**CategoryDesc varchar(15) not null constraint CD\_uk UNIQUE**

**)**

**ALTER TABLE Category**

**ADD CONSTRAINT CategoryID\_PK PRIMARY KEY (CategoryID);**

**Table 8: SalesRep**

**create table sales\_rep(**

**RepID number(7),**

**RegionID number(7) not null,**

**LabelID number(6),**

**last\_name varchar (10) not null,**

**first\_name varchar (10) not null,**

**phone# number(10) constraint RepPhn\_Uk UNIQUE not null,**

**email varchar(25) constraint RepEmail\_Uk UNIQUE**

**)**

ALTER TABLE Sales\_Rep

ADD CONSTRAINT LabelID\_RepNo\_PK PRIMARY KEY (LabelID, RepID);

Alter table sales\_rep

ADD CONSTRAINT LabelID\_FK FOREIGN KEY(labelid) references Label(LabelID);

Alter table sales\_rep

ADD CONSTRAINT RegionID\_FK FOREIGN KEY(RegionID) references Region(RegionID);

**Table 9: Label**

**create table label(**

**LabelID number(6),**

**LabelName varchar(35) constraint LN\_uk UNIQUE not null,**

**LabelURL varchar(35) constraint LU\_uk UNIQUE not null**

**)**

ALTER TABLE Label

ADD CONSTRAINT LabelID\_PK PRIMARY KEY (LabelID);

**Table 10: Region**

**create table region(**

**RegionID number(10),**

**RegionName varchar(15) constraint RN\_uk UNIQUE not null**

**)**

**ALTER TABLE region**

**ADD CONSTRAINT RegionID\_PK PRIMARY KEY (RegionID)**

**STEP 4: DML Statements**

**Table 1: orders**

**Insert into orders values( 5555, sysdate,1234, 3022.25);**

**Insert into orders values ( 6666, sysdate,1235, 2027.52);**

**Insert into orders values (7777, sysdate,1236, 1055.27);**

**Table 2: payments**

**insert into payments values(9875412305, 5555,0518, “fenilshah”, A);**

**insert into payments values(9875492516, 6666,0622, “khangTrann”,D);**

**insert into payments values(9875412307, 7777,0718, “wingsun”,**

**m);**

**Table 3: Customer**

**Insert into customer values (1,'shah','fenil', TO\_DATE('21/03/1998','DD/MM/YYYY' ), '11 mbm', 'toronto', 'ON', 'M9V2H2','fen@gm.com');**

**Insert into customer values (2,khang,tran, 21/03/1996, '11 litchfied', 'toronto', 'ON', 'kt@gm.com');**

**Insert into customer values (3,wig,cho, 21/03/1997, '11 litchfied', 'toronto', 'ON', 'wc@gm.com');**

**Table 4: OrderLines**

**Insert into orderlines values (1,2,5, 56.5, 2022);**

**Insert into orderlines values (1,3,6, 56.5, 2022);**

**Insert into orderlines values (1,4,7, 56.5, 2022);**

**Table 5: Recordings**

**Insert into recordings values (2018001, 27200, 856007, ‘The Love’,’ Rehman’, 52.0, 55);**

**Insert into recordings values (2018002, 3022, 856008, ‘NightMusic’,’ SteveJobs’, 36.55, 03);**

**Insert into recordings values (50042, 1055, 856009, ‘MarkJ’,’ MarkJump’, 96.42, 27);**

**Table 6: Record\_hist**

**Insert into recordHistories values (1, 5, 05/02/18, 56.2);**

**Insert into recordHistories values (2, 7, 05/02/17, 78.7);**

**Insert into recordHistories values (3, 78, 07/04/18, 65.2);**

**Table 7: Category**

**insert into category values (56, 'jazz');**

**insert into category values (72, 'bazz');**

**Table 8: Sales\_Rep**

**Insert into sales\_rep values(1,1,534,tran, khang, 4162354564,falana@gmail.com);**

**Insert into sales\_rep values(2,2,567,tran, chan, 4162561782,chan@gmail.com);**

**Insert into sales\_rep values(3,3,346,fenil, shah, 4162356541,fenil@gmail.com);**

**Table 9: Label**

**INSERT INTO LABEL VALUES(1,'SONI','SONI.COM');**

**INSERT INTO LABEL VALUES(2,'OLIA','OLIA.COM');**

**INSERT INTO LABEL VALUES(3,'LENOVO','LENOVO.COM');**

**Table 10: region**

**INSERT INTO REGION VALUES(1,'usa');**

**INSERT INTO REGION VALUES(2,'CANADA');**

**INSERT INTO REGION VALUES(3,'india');**

**STEP 5: Complex view**

**CREATE VIEW Cust\_Cat\_AR AS (**

**SELECT c.last\_name "Custormer Lname", c.City "Customer City", c.DOB "Customer Birth", r.artist "Artist", r.title "CD Title"**

**from customer c**

**join orders o**

**on c.customer\_id = o.customerid**

**join orderlines ol**

**on o.orderid = ol.orderid**

**join recordings r**

**on ol.recordingid = r.recordingid**

**join category ca**

**on r.categoryid = ca.categoryid**

**WHERE ca.categorydesc = 'Alt Rock');**

**STEP 6: USERID AND PASSWORD OF ORACLE**

**USERID:**

**PASSWORD:**