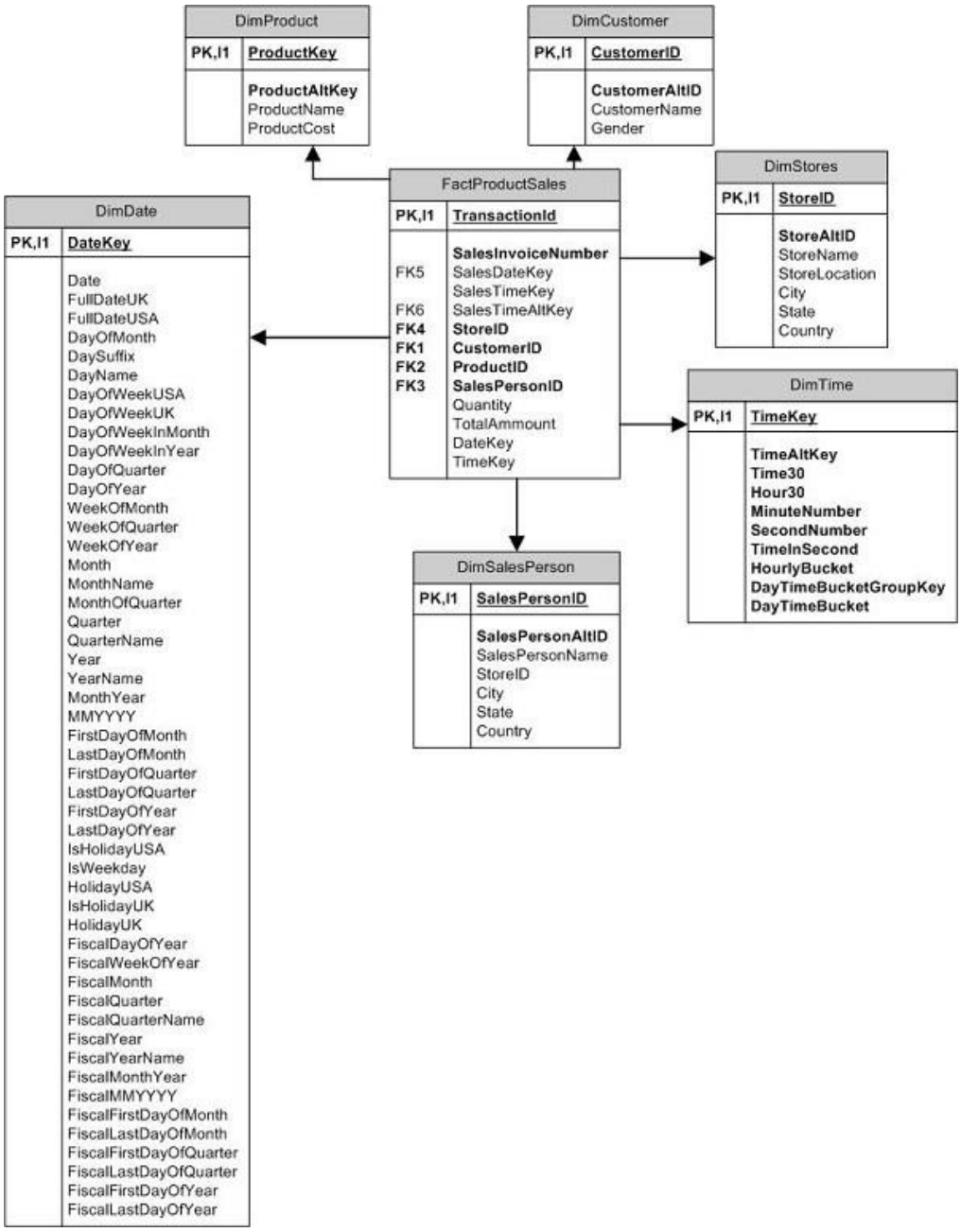
EXERCISE # 1

1. Go to **Oracle Cloud – Autonomous Database Startup Guide Hands-On lab (Beginner)**, follow the instructions but instead of using Autonomous Transaction Process, do Autonomous Data Warehouse.
2. Go to **Oracle Cloud – SQL Developer Startup Guide: Hands-On lab (Beginner)** to setup your SQL Developer (for Web only). You can download SQL Developer on your desktop but there is a Web version which will not require you to download anything.
3. We will now create your First Data Warehouse using below Star Schema:



CREATE TABLE Syntax:

```
CREATE TABLE table_name
(
  column1 datatype [ NULL | NOT NULL ],
  column2 datatype [ NULL | NOT NULL ],
  ...
  column_n datatype [ NULL | NOT NULL ]
);
```

INSERT INTO Syntax:

```
INSERT INTO table
(column1, column2, ... column_n )
VALUES
(expression1, expression2, ... expression_n );
```

4. Create the **Customer Dimension** table (DimCustomer):

   CustomerID int primary key identity

   CustomerAltID varchar(10) not null

   CustomerName varchar(50)

   Gender varchar(20)

   Fill the Customer dimension with Sample Values:

   ('IMI-001','Henry Ford','M')

   ('IMI-002','Bill Gates','M')

   ('IMI-003','Muskan Shaikh','F')

   ('IMI-004','Richard Thrubin','M')

   ('IMI-005','Emma Wattson','F')

5. Create basic level of **Product Dimension** table (DimProduct) without considering any Category or Subcategory:

   ProductKey int primary key identity

ProductAltKey varchar(10)not null

ProductName varchar(100)

ProductActualCost number(*,2)

ProductSalesCost number(*,2)

Fill the Product dimension with Sample Values:

('ITM-001','Wheat Floor 1kg',5.50,6.50)

('ITM-002','Rice Grains 1kg',22.50,24)

('ITM-003','SunFlower Oil 1 ltr',42,43.5)

('ITM-004','Nirma Soap',18,20)

('ITM-005','Arial Washing Powder 1kg',135,139)

6. Create the **Store Dimension** table (DimStores) which will hold details related stores available across various places:

   StoreID int primary key identity

   StoreAltID varchar(10) not null

   StoreName varchar(100)

   StoreLocation varchar(100)

   City varchar(100)

   State varchar(100)

   Country varchar(100)

   Fill the Store Dimension with Sample Values:

   ('LOC-A1','LandMart','EDSA','Quezon City', 'Metro Manila','Philippines')

   ('LOC-A2','LandMart','Ayala Avenue','Makati City', 'Metro Manila','Philippines')

   ('LOC-A3','LandMart','Zapote Road','Muntinlupa','Metro Manila','Philippines')

7. Create **Sales Person Dimension** table (DimSalesPerson) which will hold details related stores available across various places:

   SalesPersonID int primary key identity

   SalesPersonAltID varchar(10)not null

   SalesPersonName varchar(100)

StoreID int

City varchar(100)

State varchar(100)

Country varchar(100)

Fill the Dimension Sales Person with Sample Values:

('SP-DMSPR1','Kelly',1,'Quezon City', 'Metro Manila','Philippines')

('SP-DMSPR2','Joel',1,'Quezon City', 'Metro Manila','Philippines')

('SP-DMNGR1','Christine',2,'Quezon City', 'Metro Manila','Philippines')

('SP-DMNGR2','Paul',2,'Quezon City', 'Metro Manila','Philippines')

('SP-DMSVR1','Julio',3,'Quezon City', 'Metro Manila','Philippines')

('SP-DMSVR2','Sally',3,'Quezon City', 'Metro Manila','Philippines')

8. Create **Date Dimension** table which will create and populate date data divided on various levels.

DateKey int NOT NULL

FullDate datetime NULL

DayOfMonth varchar(2) NULL

DaySuffix varchar(4) NULL

DayName varchar(9) NULL

DayOfWeekInMonth varchar(2) NULL

DayOfWeekInYear varchar(2) NULL

DayOfQuarter varchar(3) NULL

DayOfYear varchar(3) NULL

WeekOfMonth varchar(1) NULL

WeekOfQuarter varchar(2) NULL

WeekOfYear varchar(2) NULL

FullMonth varchar(2) NULL

MonthName varchar(9) NULL

MonthOfQuarter varchar(2) NULL

Quarter char(1) NULL

QuarterName varchar(9) NULL

FullYear char(4) NULL

YearName char(7) NULL

MonthYear char(10) NULL

MMYYYY char(6) NULL

FirstDayOfMonth date NULL

LastDayOfMonth date NULL

FirstDayOfQuarter date NULL

LastDayOfQuarter date NULL

FirstDayOfYear date NULL

LastDayOfYear date NULL

IsWeekday bit NULL

Fill the Dimension Time with Sample Values:

(20130101,2013-01-01
00:00:00.000,1,1st,Tuesday,1,1,1,1,1,1,1,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130102,2013-01-02
00:00:00.000,2,2nd,Wednesday,1,1,1,2,1,1,1,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130103,2013-01-03
00:00:00.000,3,3rd,Thursday,1,1,1,3,1,1,1,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130104,2013-01-04
00:00:00.000,4,4th,Friday,1,1,1,4,1,1,1,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130105,2013-01-05
00:00:00.000,5,5th,Saturday,1,1,1,5,1,1,1,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,0)

(20130106,2013-01-06
00:00:00.000,6,6th,Sunday,1,1,1,6,2,1,2,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,0)

(20130107,2013-01-07
00:00:00.000,7,7th,Monday,1,1,1,7,2,1,2,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130108,2013-01-08
00:00:00.000,8,8th,Tuesday,2,2,2,8,2,2,2,1,January,1,1,First,2013,CY 2013,Jan-2013,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130109,2013-01-09
00:00:00.000,9,9th,Wednesday,2,2,2,9,2,2,2,1,January,1,1,First,2013,CY 2013,Jan-2013,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

(20130110,2013-01-10
00:00:00.000,10,10th,Thursday,2,2,2,10,2,2,2,1,January,1,1,First,2013,CY 2013,Jan-2013 ,012013,2013-01-01,2013-01-31,2013-01-01,2013-03-31,2013-01-01,2013-12-31,1)

9. Create **Fact table** (FactProductSales) to hold all your transactional entries of previous day sales with appropriate foreign key columns which refer to primary key column of your dimensions; you have to take care while populating your fact table to refer to primary key values of appropriate dimensions.

   Before filling fact table, you have to identify and do look up for primary key column values in dimensions as per given example and fill in foreign key columns of fact table with appropriate key values.

   TransactionId bigint primary key identity,

   SalesInvoiceNumber int not null,

   SalesDateKey int,

   SalesTimeKey int,

SalesTimeAltKey int,

StoreID int not null,

CustomerID int not null,

ProductID int not null,

SalesPersonID int not null,

Quantity float,

SalesTotalCost money,

ProductActualCost money,

Deviation float

10. Add **Relationships** between the **Fact table** and **Dimension tables**

11. Populate your **Fact table** with historical transaction values of sales for previous day, with proper values of dimension key values.

(1,20130101,44347,121907,1,1,1,1,2,11,13,2)

(1,20130101,44347,121907,1,1,2,1,1,22.50,24,1.5)

(1,20130101,44347,121907,1,1,3,1,1,42,43.5,1.5)

(2,20130101,44519,122159,1,2,3,1,1,42,43.5,1.5)

(2,20130101,44519,122159,1,2,4,1,3,54,60,6)

(3,20130101,52415,143335,1,3,2,2,2,11,13,2)

(3,20130101,52415,143335,1,3,3,2,1,42,43.5,1.5)

(3,20130101,52415,143335,1,3,4,2,3,54,60,6)

(3,20130101,52415,143335,1,3,5,2,1,135,139,4)

(4,20130102,44347,121907,1,1,1,1,2,11,13,2)

(4,20130102,44347,121907,1,1,2,1,1,22.50,24,1.5)

(5,20130102,44519,122159,1,2,3,1,1,42,43.5,1.5)

(5,20130102,44519,122159,1,2,4,1,3,54,60,6)

(6,20130102,52415,143335,1,3,2,2,2,11,13,2)

(6,20130102,52415,143335,1,3,5,2,1,135,139,4)

(7,20130102,44347,121907,2,1,4,3,3,54,60,6)

(7,20130102,44347,121907,2,1,5,3,1,135,139,4)

(8,20130103,59326,162846,1,1,3,1,2,84,87,3)

(8,20130103,59326,162846,1,1,4,1,3,54,60,3)

(9,20130103,59349,162909,1,2,1,1,1,5.5,6.5,1)

(9,20130103,59349,162909,1,2,2,1,1,22.50,24,1.5)

(10,20130103,67390,184310,1,3,1,2,2,11,13,2)

(10,20130103,67390,184310,1,3,4,2,3,54,60,6)

(11,20130103,74877,204757,2,1,2,3,1,5.5,6.5,1)

(11,20130103,74877,204757,2,1,3,3,1,42,43.5,1.5)

12. Be sure to execute all codes and submit all the codes used to create your Data Warehouse using the format **LASTNAME.sql** through BB.