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PRN: 2020BTECS00037

Batch:T2

Advanced Database System Lab.

Assignment No. 7

Build the data warehouse for X-Mart

Title: Build Data Warehouse for X-Mart.
Aim: To understand & design data warehouse.

Queries:

```
use assignment7;

delimiter //
create function is_leap_year (yr int) returns int
reads SQL DATA
deterministic
begin
	declare flag int;
		if (yr%4=0 and yr%100!=0) or yr%400=0 then
			set flag = 1;
		else
			set flag = 0;
		end if;
	return flag;
end;


-- sql queries
create table DimCustomer(
CustomerID int primary key,
CustomerAltID varchar(10) not null,
CustomerName varchar(50),
Gender char
);


create table DimDate(
```

```
        DateKey int primary key auto_increment,
        date date,
        FullDateUK CHAR(10), -- Date in DD-MM-YYYY
        FullDateUSA CHAR(10),-- Date in MM-DD-YYYY
        DayOfMonth VARCHAR(2), -- Day number of Month
        DaySuffix VARCHAR(4), -- 1st, 2nd ,3rd, etc
        DayName VARCHAR(9),
        DayOfWeekUSA CHAR(1),-- First Day Sunday=1 and Saturday=7
        DayOfWeekUK CHAR(1),-- First Day Monday=1 and Sunday=7
        DayOfWeekInMonth VARCHAR(2), -- 1st Monday or 2nd
Monday in Month
        DayOfWeekInYear VARCHAR(2),
        DayOfQuarter VARCHAR(3),
        DayOfYear VARCHAR(3),
        WeekOfMonth VARCHAR(1),
        WeekOfQuarter text(2),
        WeekOfYear VARCHAR(2),
        Month VARCHAR(2),
        MonthName VARCHAR(9),
        MonthOfQuarter VARCHAR(2),
        Quarter CHAR(1),
        QuarterName VARCHAR(9), -- First,Second, etc.
        Year CHAR(4),-- Year value of Date stored in Row
        YearName CHAR(7), -- Calendar Year (CY) 2022, 2023, etc.
        MonthYear CHAR(10), -- Jan-2023, Feb-2023
        MMYYYY CHAR(6),
        FirstDayOfMonth DATE,
        LastDayOfMonth DATE,
        FirstDayOfQuarter DATE,
        LastDayOfQuarter DATE,
        FirstDayOfYear DATE,
        LastDayOfYear DATE,
        IsHolidayUSA BIT, -- Flag 1=National Holiday, 0=No National
Holiday
        IsWeekday BIT, -- 0=Week End ,1=Week Day
        HolidayUSA VARCHAR(50), -- Name of Holiday in US
        IsHolidayUK BIT null, -- Flag 1=National Holiday, 0=No National
Holiday
        HolidayUK VARCHAR(50) null, -- Name of Holiday in UK
    FiscalDayOfYear VARCHAR(3),
        FiscalWeekOfYear VARCHAR(3),
        FiscalMonth VARCHAR(2),
        FiscalQuarter CHAR(1),
```

```
        FiscalQuarterName VARCHAR(9),
        FiscalYear CHAR(4),
        FiscalYearName CHAR(7),
        FiscalMonthYear CHAR(10),
        FiscalMMYYYY CHAR(6),
        FiscalFirstDayOfMonth DATE,
        FiscalLastDayOfMonth DATE,
        FiscalFirstDayOfQuarter DATE,
        FiscalLastDayOfQuarter DATE,
        FiscalFirstDayOfYear DATE,
        FiscalLastDayOfYear DATE
)

create table DimProduct(
ProductKey int primary key,
ProductAltKey varchar(10)not null,
ProductName varchar(100),
ProductActualCost decimal(10, 2),
ProductSalesCost decimal(10, 2)
);

create table DimSalesPerson(
SalesPersonID int primary key,
SalesPersonAltID varchar(10)not null,
SalesPersonName varchar(100),
StoreID int,
City varchar(50),
State varchar(50),
Country varchar(50)
);

create table DimStores(
StoreID int primary key,
StoreAltID varchar(10) not null,
StoreName varchar(50),
StoreLocation varchar(100),
City varchar(50),
State varchar(50),
Country varchar(50)
);

CREATE TABLE DimTime (
        TimeKey int NOT NULL primary key auto_increment,
```

```
        TimeAltKey int NOT NULL,
    Time time,
        Time30 varchar(8) NOT NULL,
        Hour30 tinyint NOT NULL,
        MinuteNumber tinyint NOT NULL,
        SecondNumber tinyint NOT NULL,
        TimeInSecond int NOT NULL,
        HourlyBucket varchar(15) not null,
        DayTimeBucketGroupKey int not null,
        DayTimeBucket varchar(100) not null
);

Create Table FactProductSales(
        TransactionId bigint not null primary key,
        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,
        TotalAmount decimal(10, 2),
        DateKey date,
    TimeKey time,

    foreign key (StoreID) references DimStores(StoreID),
    foreign key (CustomerID) references DimCustomer(CustomerID),
    foreign key (ProductID) references DimProduct(ProductKey),
    foreign key (SalesPersonID) references DimSalesPerson(SalesPersonID),
    foreign key (SalesDateKey) references DimDate(DateKey),
        foreign key (SalesTimeKey) references DimTime(TimeKey)
)




delimiter //
create trigger insert_dt
```

```
before insert on dimdate for each row
begin
        DECLARE v_WeekOfMonth INT;
        DECLARE v_CurrentYear INT;
        DECLARE v_CurrentQuarter INT;
        DECLARE v_CurrentDate DATE;
    DECLARE v_CNTR INT;
    DECLARE v_POS INT;
    DECLARE v_STARTYEAR INT;
    DECLARE v_ENDYEAR INT;
    DECLARE v_MINDAY INT;
    DECLARE v_Month varchar(2);
    DECLARE v_DayofWeekUSA char(1);
    DECLARE  v_DayOfMonth varchar(2);
    DECLARE v_DayOfWeekInMonth varchar(2);
    DECLARE v_HolidayUSA varchar(50);
        DECLARE v_HolidayUK varchar(50);

    -- Fiscal Year Variables
        DECLARE v_FiscalDayOfYear INT;
    DECLARE v_min_sd DATE;
    DECLARE v_max_ed DATE;
    DECLARE v_min_sd_fq DATE;
    DECLARE v_max_ed_fq DATE;
    DECLARE v_min_sd_yr DATE;
    DECLARE v_max_ed_yr DATE;

    -- Setting variables
    SET v_CurrentDate = new.date;
        SET v_CurrentYear = YEAR( v_CurrentDate);
        SET v_CurrentQuarter = QUARTER( v_CurrentDate);

    -- Inserting values
        SET New.FullDateUK =
DATE_FORMAT(v_CurrentDate,'%d/%m/%Y');
        SET New.FullDateUSA =
DATE_FORMAT(v_CurrentDate,'%m/%d/%Y');
        SET New.DayOfMonth = DAY( v_CurrentDate); SET
v_DayOfMonth=DAY( v_CurrentDate);
        SET New.DaySuffix = CASE
                        WHEN DAY(v_CurrentDate) IN (11,12,13)
                        THEN CONCAT(CAST(DAY(v_CurrentDate) AS CHAR) ,
'th')
```

```
                    WHEN RIGHT(DAY(v_CurrentDate),1) = 1
                    THEN CONCAT(CAST(DAY(v_CurrentDate) AS CHAR) ,
'st')
                    WHEN RIGHT(DAY(v_CurrentDate),1) = 2
                    THEN CONCAT(CAST(DAY(v_CurrentDate) AS CHAR) ,
'nd')
                    WHEN RIGHT(DAY(v_CurrentDate),1) = 3
                    THEN CONCAT(CAST(DAY(v_CurrentDate) AS CHAR) ,
'rd')
                    ELSE CONCAT(CAST(DAY(v_CurrentDate) AS CHAR) ,
'th')
               END;
        SET New.DayName = DAYNAME( v_CurrentDate);
        SET New.DayOfWeekUSA = DAYOFWEEK( v_CurrentDate); SET
v_DayofWeekUSA=DAYOFWEEK( v_CurrentDate);
        SET New.DayOfWeekUK = CASE DAYOFWEEK( v_CurrentDate)
                    WHEN 1 THEN 7
                    WHEN 2 THEN 1
                    WHEN 3 THEN 2
                    WHEN 4 THEN 3
                    WHEN 5 THEN 4
                    WHEN 6 THEN 5
                    WHEN 7 THEN 6
                    END;
        SET New.DayOfWeekInMonth = MONTH(v_CurrentDate); SET
v_DayOfWeekInMonth= MONTH(v_CurrentDate);
        SET New.DayOfWeekInYear = WEEKDAY(v_CurrentDate);
        SET New.DayOfQuarter =
CAST(CEILING(CAST(month(v_CurrentDate) AS decimal(9,2)) / 3) AS
char(1));
        SET New.DayOfYear = DAYOFYEAR(v_CurrentDate);
        SET New.WeekOfMonth = WEEK(v_CurrentDate, 5) -
WEEK(DATE_SUB(v_CurrentDate, INTERVAL
DAYOFMONTH(v_CurrentDate) - 1 DAY), 5) + 1;
        SET New.WeekOfQuarter = (TIMESTAMPDIFF(DAY,
TIMESTAMPADD(QUARTER, TIMESTAMPDIFF(QUARTER, '1900-01-
01', v_CurrentDate), ADDDATE('1900-01-01', 0)), v_CurrentDate) / 7) + 1;
        SET New.WeekOfYear = weekofyear( v_CurrentDate);
        SET New.Month = MONTH( v_CurrentDate); SET v_Month =
MONTH( v_CurrentDate);
        SET New.MonthName = MONTHNAME( v_CurrentDate);
        SET New.MonthOfQuarter = CASE
                    WHEN MONTH( v_CurrentDate) IN (1, 4, 7, 10) THEN 1
```

```
                    WHEN MONTH( v_CurrentDate) IN (2, 5, 8, 11) THEN 2
                    WHEN MONTH( v_CurrentDate) IN (3, 6, 9, 12) THEN 3
                    END;
        SET New.Quarter = QUARTER( v_CurrentDate);
        SET New.QuarterName = CASE QUARTER( v_CurrentDate)
                    WHEN 1 THEN 'First'
                    WHEN 2 THEN 'Second'
                    WHEN 3 THEN 'Third'
                    WHEN 4 THEN 'Fourth'
                    END;
        SET New.Year = YEAR( v_CurrentDate);
        SET New.YearName = CONCAT('CY ' , CONVERT( YEAR(
v_CurrentDate), CHAR));
        SET New.MonthYear = CONCAT(LEFT(MONTHNAME(
v_CurrentDate), 3) , '-' , YEAR( v_CurrentDate));
        SET New.MMYYYY = Concat(RIGHT(Concat('0' , CONVERT(
MONTH( v_CurrentDate), CHAR)),2), CONVERT( YEAR( v_CurrentDate),
CHAR));
        SET New.FirstDayOfMonth = CAST(DATE_FORMAT(v_CurrentDate
,'%Y-%m-01') as DATE);
        SET New.LastDayOfMonth = last_day(v_CurrentDate);
        SET New.FirstDayOfQuarter = TIMESTAMPADD(QUARTER,
TIMESTAMPDIFF(QUARTER, '1900-01-01', v_CurrentDate),
ADDDATE('1900-01-01', 0));
        SET New.LastDayOfQuarter = MAKEDATE(YEAR(CURDATE()), 1) +
INTERVAL QUARTER(CURDATE()) QUARTER - INTERVAL 1 DAY;
        SET New.FirstDayOfYear = concat(cast(year( '2023-03-18') as char(4)),
'-01-01');
        SET New.LastDayOfYear = concat(cast(year( '2023-03-18') as char(4)),
'-12-31');
        SET New.IsWeekday = CASE DAYOFWEEK( v_CurrentDate)
                                        WHEN 1 THEN 0
                                        WHEN 2 THEN 1
                                        WHEN 3 THEN 1
                                        WHEN 4 THEN 1
                                        WHEN 5 THEN 1
                                        WHEN 6 THEN 1
                                        WHEN 7 THEN 0
                                    END;
        SET New.HolidayUSA = CASE
                                        WHEN v_Month=11 and
v_DayofWeekUSA='Thursday' and v_DayOfWeekInMonth=4 THEN
'Thanksgiving Day'
```

```
                                                WHEN v_Month=12 AND
v_DayOfMonth=25 THEN 'Christmas Day'
                                                WHEN v_Month=7 AND
v_DayOfMonth=4 THEN 'Independence Day'
                                                WHEN v_Month=1 AND
v_DayOfMonth=1 THEN 'New Year"s Day'
                                                WHEN v_Month=2 AND
v_DayOfMonth=14 THEN 'Valentine"s Day'
                                                WHEN v_Month=3 AND
v_DayOfMonth=17 THEN 'Saint Patrick"s Day'
                                                WHEN v_Month=1 AND
v_DayofWeekUSA='Monday' AND year(v_CurrentDate) >= 1983 AND
v_DayOfWeekInMonth = 3 THEN 'Martin Luthor King Jr Day'
                                                WHEN v_Month=5 AND
v_DayofWeekUSA = 'Sunday' AND v_DayOfWeekInMonth=2 THEN
'Mother"s Day'
                                                WHEN v_Month=6 AND
v_DayofWeekUSA='Sunday' AND v_DayOfWeekInMonth=3 THEN 'Father"s
Day'
                                                WHEN v_Month=10 AND
v_DayOfMonth=31 THEN 'Halloween'
                                        end; SET v_HolidayUSA =
New.HolidayUSA;

   SET New.IsHolidayUSA = CASE
                                                WHEN v_HolidayUSA IS
NULL THEN 0
                                                WHEN v_HolidayUSA IS
NOT NULL THEN 1
                                                END;

        SET New.HolidayUK = CASE
                                                WHEN v_Month=1 and
v_DayOfMonth=1 THEN 'New Year"s Day'
                                                WHEN v_Month=4 and
v_DayOfMonth=18 THEN 'Good Friday'
                                                WHEN v_Month=4 and
v_DayOfMonth=21 THEN 'Easter Monday'
                                                WHEN v_Month=5 and
v_DayOfMonth=5 THEN 'Early May Bank Holiday'
                                                WHEN v_Month=5 and
v_DayOfMonth=26 THEN 'Spring Bank Holiday'
```

```
                                                WHEN v_Month=8 and
v_DayOfMonth=25 THEN 'Summer Bank Holiday'
                                                WHEN v_Month=12 and
v_DayOfMonth=25 THEN 'Christmas Day'
                                                WHEN v_Month=12 and
v_DayOfMonth=26 THEN 'Boxing Day'
                                                WHEN v_Month=4 and
v_DayOfMonth=18 THEN 'Good Friday'
                                            end; SET v_HolidayUK =
New.HolidayUK;

        SET New.IsHolidayUK = CASE
                                                    WHEN v_HolidayUK IS
NULL THEN 0
                                                    WHEN v_HolidayUK IS
NOT NULL THEN 1
                                            END;

    -- Setting the Fiscal values
    SET v_FiscalDayOfYear = CASE month(v_CurrentDate)
                                                    WHEN 1 THEN 275 +
day(v_CurrentDate)
                                                    WHEN 2 THEN 306 +
day(v_CurrentDate)
                                                    WHEN 3 THEN 334 +
day(v_CurrentDate)
                                                    WHEN 4 THEN
day(v_CurrentDate)
                                                    WHEN 5 THEN 30 +
day(v_CurrentDate)
                                                    WHEN 6 THEN 61 +
day(v_CurrentDate)
                                                    WHEN 7 THEN 91 +
day(v_CurrentDate)
                                                    WHEN 8 THEN 122 +
day(v_CurrentDate)
                                                    WHEN 9 THEN 153 +
day(v_CurrentDate)
                                                    WHEN 10 THEN 183 +
day(v_CurrentDate)
                                                    WHEN 11 THEN 214 +
day(v_CurrentDate)
```

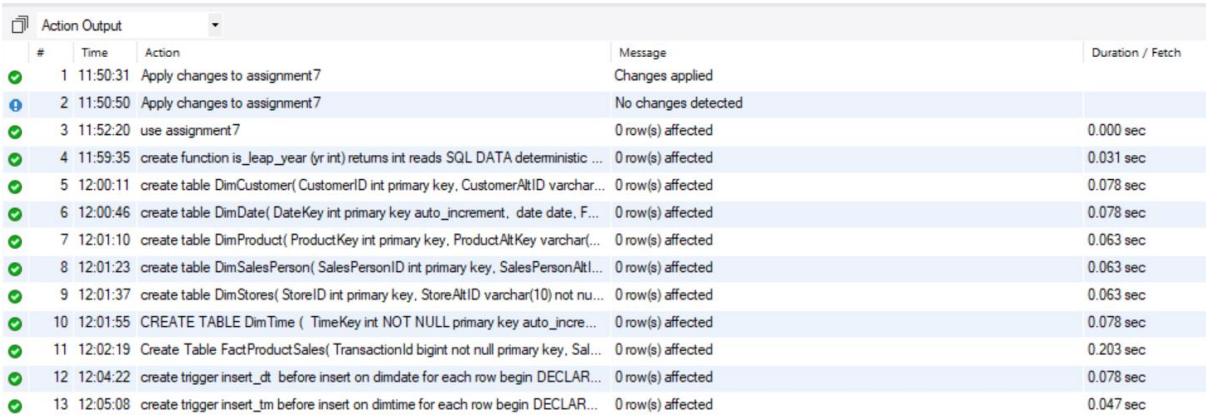
```
                                                    WHEN 12 THEN 244 +
day(v_CurrentDate)
                                                END;

   SET New.FiscalDayOfYear = CASE is_leap_year(year(v_CurrentDate))
                                                    WHEN 1 and
month(v_CurrentDate)=3 THEN v_FiscalDayOfYear+1
                            ELSE v_FiscalDayOfYear
                                                    END;

        SET New.FiscalMonth = month(v_CurrentDate); -- No Changes in Fiscal
Month. It is same as Calendar Month
        SET New.FiscalQuarter = CASE
                                                    WHEN New.FiscalMonth
BETWEEN 4 and 6 THEN 1
                                                    WHEN New.FiscalMonth
BETWEEN 7 and 9 THEN 2
                                                    WHEN New.FiscalMonth
BETWEEN 10 and 12 THEN 3
                                                    WHEN New.FiscalMonth
BETWEEN 1 and 3 THEN 4
                                                end;
        SET New.FiscalQuarterName = CASE New.FiscalQuarter
                                                    WHEN 1 THEN
'First'
                                                    WHEN 2 THEN
'Second'
                                                    WHEN 3 THEN
'Third'
                                                    WHEN 4 THEN
'Fourth'
                                                    END;
        SET New.FiscalYear = CASE
                                                WHEN month(v_CurrentDate) <=
3
                                                    THEN
CAST(year(v_CurrentDate)-1 as char)
                                                ELSE
                                                    CAST(year(v_CurrentDate)
as char)
                                            END;
        SET New.FiscalYearName = CONCAT('FY ' , CONVERT(
New.FiscalYear, CHAR));
```

```
   SET New.FiscalWeekOfYear = abs(floor(datediff(concat(New.FiscalYear, '-
04-01'), v_CurrentDate)/7));

        SET New.FiscalMonthYear = CONCAT(CASE New.FiscalMonth
                                                    WHEN 1 THEN 'Jan'
                                                    WHEN 2 THEN 'Feb'
                                                    WHEN 3 THEN 'Mar'
                                                    WHEN 4 THEN 'Apr'
                                                    WHEN 5 THEN 'May'
                                                    WHEN 6 THEN 'Jun'
                                                    WHEN 7 THEN 'Jul'
                                                    WHEN 8 THEN 'Aug'
                                                    WHEN 9 THEN 'Sep'
                                                    WHEN 10 THEN 'Oct'
                                                    WHEN 11 THEN 'Nov'
                                                    WHEN 12 THEN 'Dec'
                                                    END , '-' , CONVERT(
New.FiscalYear, CHAR));
        SET New.FiscalMMYYYY = Concat(RIGHT(Concat('0' , CONVERT(
New.FiscalMonth, CHAR)),2), CONVERT( New.FiscalYear, CHAR));
        SET New.FiscalFirstDayOfMonth = New.FirstDayOfMonth;
        SET New.FiscalLastDayOfMonth = New.LastDayOfMonth;
        SET New.FiscalFirstDayOfQuarter = CASE New.FiscalQuarter
                                                    WHEN 1
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '04-01')
                                                    WHEN 2
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '07-01')
                                                    WHEN 3
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '10-01')
                                                    WHEN 4
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '01-01')
                                                END;
        SET New.FiscalLastDayOfQuarter = CASE New.FiscalQuarter
                                                    WHEN 1
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '06-30')
                                                    WHEN 2
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '09-30')
                                                    WHEN 3
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '12-31')
                                                    WHEN 4
THEN CONCAT(CONCAT(New.FiscalYear, '-'), '03-31')
                                                END;
```

```
        SET New.FiscalFirstDayOfYear =  concat(New.FiscalYear, '-04-01');
        SET New.FiscalLastDayOfYear =  concat(New.FiscalYear, '-03-31');

end;



delimiter //
create trigger insert_tm
before insert on dimtime
for each row
begin
        DECLARE v_CurrentTime TIME;
        DECLARE v_hour INTEGER;
        DECLARE v_minute INTEGER;
        DECLARE v_second INTEGER;
        DECLARE v_TimeAltKey INTEGER;
        DECLARE v_TimeInSecond INTEGER;
        DECLARE v_Time30 varchar(25);
        DECLARE v_Hour30 varchar(4);
        DECLARE v_Minute30 varchar(4);
        DECLARE v_Second30 varchar(4);
        DECLARE v_HourlyBucket varchar(15);
        DECLARE v_HourBucketGroupKey int;
        DECLARE v_DayTimeBucket varchar(100);
        DECLARE v_DayTimeBucketGroupKey int;

        -- Setting the variables
    SET v_CurrentTime = New.Time;

        SET v_hour = HOUR(v_CurrentTime);
        if (v_hour < 10 ) then
                set v_Hour30 = '0' + cast( v_hour as char(10));
        else
                set v_Hour30 = v_hour;
        end if;

    set v_HourlyBucket= CONCAT(v_Hour30,':00' ,'-' ,v_Hour30,':59');

    set v_minute = minute(v_CurrentTime);
    set v_second = second(v_CurrentTime);
    set v_TimeAltKey = v_hour *10000 +v_minute*100 +v_second;
        set v_TimeInSecond =v_hour * 3600 + v_minute *60 +v_second;
```

```
   if v_minute <10 then
            set v_Minute30 = '0' + cast( v_minute as char(10) );
        else
            set v_Minute30 = v_minute;
        end if;

        if v_second <10 then
            set v_Second30 = '0' + cast( v_second as char(10) );
        else
            set v_Second30 = v_second;
        end if;

        set v_Time30 = CONCAT(v_Hour30 ,':',v_Minute30 ,':',v_Second30);

   SET v_DayTimeBucketGroupKey = CASE
                    WHEN (v_TimeAltKey >= 00000 AND v_TimeAltKey <=
25959) THEN 0
                    WHEN (v_TimeAltKey >= 30000 AND v_TimeAltKey <=
65959) THEN 1
                    WHEN (v_TimeAltKey >= 70000 AND v_TimeAltKey <=
85959) THEN 2
                    WHEN (v_TimeAltKey >= 90000 AND v_TimeAltKey <=
115959) THEN 3
                    WHEN (v_TimeAltKey >= 120000 AND v_TimeAltKey <=
135959)THEN 4
                    WHEN (v_TimeAltKey >= 140000 AND v_TimeAltKey <=
155959)THEN 5
                    WHEN (v_TimeAltKey >= 50000 AND v_TimeAltKey <=
175959) THEN 6
                    WHEN (v_TimeAltKey >= 180000 AND v_TimeAltKey <=
235959)THEN 7
                    WHEN (v_TimeAltKey >= 240000) THEN 8
            END;

        SET v_DayTimeBucket = CASE
            WHEN (v_TimeAltKey >= 00000 AND v_TimeAltKey <= 25959)
                THEN 'Late Night (00:00 AM To 02:59 AM)'
            WHEN (v_TimeAltKey >= 30000 AND v_TimeAltKey <= 65959)
                THEN 'Early Morning(03:00 AM To 6:59 AM)'
            WHEN (v_TimeAltKey >= 70000 AND v_TimeAltKey <= 85959)
                THEN 'AM Peak (7:00 AM To 8:59 AM)'
```

```
            WHEN (v_TimeAltKey >= 90000 AND v_TimeAltKey <=
115959)
                THEN 'Mid Morning (9:00 AM To 11:59 AM)'
            WHEN (v_TimeAltKey >= 120000 AND v_TimeAltKey <=
135959)
                THEN 'Lunch (12:00 PM To 13:59 PM)'
            WHEN (v_TimeAltKey >= 140000 AND v_TimeAltKey <=
155959)
                THEN 'Mid Afternoon (14:00 PM To 15:59 PM)'
            WHEN (v_TimeAltKey >= 50000 AND v_TimeAltKey <=
175959)
                THEN 'PM Peak (16:00 PM To 17:59 PM)'
            WHEN (v_TimeAltKey >= 180000 AND v_TimeAltKey <=
235959)
                THEN 'Evening (18:00 PM To 23:59 PM)'
            END;

    -- Setting the original values
        SET New.TimeAltKey = v_TimeAltKey;
        SET New.Time30 = v_Time30;
        SET New.Hour30 = v_hour;
        SET New.MinuteNumber = v_minute;
        SET New.SecondNumber = v_second;
        SET New.TimeInSecond = v_TimeInSecond;
        SET New.HourlyBucket = v_HourlyBucket;
        SET New.DayTimeBucketGroupKey = v_DayTimeBucketGroupKey;
        SET New.DayTimeBucket = v_DayTimeBucket;

end;
```



Action Output

#	Time	Action	Message	Duration / Fetch
1	11:50:31	Apply changes to assignment7	Changes applied	
2	11:50:50	Apply changes to assignment7	No changes detected	
3	11:52:20	use assignment7	0 row(s) affected	0.000 sec
4	11:59:35	create function is_leap_year (yr int) returns int reads SQL DATA deterministic ...	0 row(s) affected	0.031 sec
5	12:00:11	create table DimCustomer(CustomerID int primary key, CustomerAltID varchar...	0 row(s) affected	0.078 sec
6	12:00:46	create table DimDate(DateKey int primary key auto_increment, date date, F...	0 row(s) affected	0.078 sec
7	12:01:10	create table DimProduct(ProductKey int primary key, ProductAltKey varchar(...	0 row(s) affected	0.063 sec
8	12:01:23	create table DimSalesPerson(SalesPersonID int primary key, SalesPersonAltI...	0 row(s) affected	0.063 sec
9	12:01:37	create table DimStores(StoreID int primary key, StoreAltID varchar(10) not nu...	0 row(s) affected	0.063 sec
10	12:01:55	CREATE TABLE DimTime (TimeKey int NOT NULL primary key auto_incre...	0 row(s) affected	0.078 sec
11	12:02:19	Create Table FactProductSales(TransactionId bigint not null primary key, Sal...	0 row(s) affected	0.203 sec
12	12:04:22	create trigger insert_dt before insert on dimdate for each row begin DECLAR...	0 row(s) affected	0.078 sec
13	12:05:08	create trigger insert_tm before insert on dimtime for each row begin DECLAR...	0 row(s) affected	0.047 sec

INSERT INTO DimCustomer (CustomerID, CustomerAltID, CustomerName, Gender)

```
VALUES
  (1, 'CUST001', 'John Smith', 'M'),
  (2, 'CUST002', 'Jane Doe', 'F'),
  (3, 'CUST003', 'Bob Johnson', 'M'),
  (4, 'CUST004', 'Emily Davis', 'F'),
  (5, 'CUST005', 'Mark Lee', 'M'),
  (6, 'CUST006', 'Sarah Wilson', 'F'),
  (7, 'CUST007', 'David Brown', 'M'),
  (8, 'CUST008', 'Linda Martin', 'F'),
  (9, 'CUST009', 'Michael Clark', 'M'),
  (10, 'CUST010', 'Amy Chen', 'F'),
  (11, 'CUST011', 'William Kim', 'M'),
  (12, 'CUST012', 'Samantha Jones', 'F'),
  (13, 'CUST013', 'Jacob Lee', 'M'),
  (14, 'CUST014', 'Olivia Wang', 'F'),
  (15, 'CUST015', 'Daniel Park', 'M');


INSERT INTO DimDate (date, FullDateUK, FullDateUSA, DayOfMonth,
DaySuffix, DayName, DayOfWeekUSA, DayOfWeekUK,
DayOfWeekInMonth, DayOfWeekInYear, DayOfQuarter, DayOfYear,
WeekOfMonth, WeekOfQuarter, WeekOfYear, Month, MonthName,
MonthOfQuarter, Quarter, QuarterName, Year, YearName, MonthYear,
MMYYYY, FirstDayOfMonth, LastDayOfMonth, FirstDayOfQuarter,
LastDayOfQuarter, FirstDayOfYear, LastDayOfYear, IsHolidayUSA,
IsWeekday, HolidayUSA, IsHolidayUK, HolidayUK, FiscalDayOfYear,
FiscalWeekOfYear, FiscalMonth, FiscalQuarter, FiscalQuarterName,
FiscalYear, FiscalYearName, FiscalMonthYear, FiscalMMYYYY,
FiscalFirstDayOfMonth, FiscalLastDayOfMonth, FiscalFirstDayOfQuarter,
FiscalLastDayOfQuarter, FiscalFirstDayOfYear, FiscalLastDayOfYear)
VALUES
('2022-01-01', '01-01-2022', '01-01-2022', '01', 'st', 'Saturday', '7', '6', '1', '1', '1',
'1', '1', '1', '1', '01', 'January', '1', '1', 'First', '2022', 'CY 2022', 'Jan-2022', '012022',
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'0122', '2022-01-01', '2022-01-31', '2022-01-01', '2022-03-31', '2022-01-01',
'2022-12-31'),
('2022-01-02', '02-01-2022', '01-02-2022', '02', 'nd', 'Sunday', '1', '7', '1', '2', '1',
'2', '1', '1', '1', '01', 'January', '1', '1', 'First', '2022', 'CY 2022', 'Jan-2022', '012022',
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31', 0, 0, NULL, 0, NULL, '002', '01', '01', '1', 'First', '2022', 'FY22', 'Jan-2022',
'0122', '2022-01-01', '2022-01-31', '2022-01-01', '2022-03-31', '2022-01-01',
'2022-12-31');
```
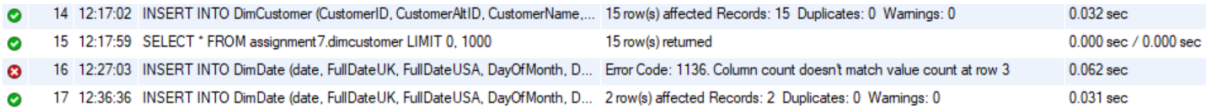



✓	14	12:17:02	INSERT INTO DimCustomer (CustomerID, CustomerAltID, CustomerName,...	15 row(s) affected Records: 15 Duplicates: 0 Warnings: 0	0.032 sec
✓	15	12:17:59	SELECT * FROM assignment7.dimcustomer LIMIT 0, 1000	15 row(s) returned	0.000 sec / 0.000 sec
✗	16	12:27:03	INSERT INTO DimDate (date, FullDateUK, FullDateUSA, DayOfMonth, D...	Error Code: 1136. Column count doesn't match value count at row 3	0.062 sec
✓	17	12:36:36	INSERT INTO DimDate (date, FullDateUK, FullDateUSA, DayOfMonth, D...	2 row(s) affected Records: 2 Duplicates: 0 Warnings: 0	0.031 sec

```
INSERT INTO DimProduct (ProductKey, ProductAltKey, ProductName,
ProductActualCost, ProductSalesCost)
VALUES
(1, 'P00001', 'Widget 1', 10.00, 15.00),
(2, 'P00002', 'Widget 2', 12.50, 18.75),
(3, 'P00003', 'Widget 3', 15.00, 22.50),
(4, 'P00004', 'Widget 4', 17.50, 26.25),
(5, 'P00005', 'Widget 5', 20.00, 30.00),
(6, 'P00006', 'Widget 6', 22.50, 33.75),
(7, 'P00007', 'Widget 7', 25.00, 37.50),
(8, 'P00008', 'Widget 8', 27.50, 41.25),
(9, 'P00009', 'Widget 9', 30.00, 45.00),
(10, 'P00010', 'Widget 10', 32.50, 48.75),
(11, 'P00011', 'Gadget 1', 8.50, 12.75),
(12, 'P00012', 'Gadget 2', 11.00, 16.50),
(13, 'P00013', 'Gadget 3', 14.00, 21.00),
(14, 'P00014', 'Gadget 4', 16.50, 24.75),
(15, 'P00015', 'Gadget 5', 19.00, 28.50);

INSERT INTO DimSalesPerson (SalesPersonID, SalesPersonAltID,
SalesPersonName, StoreID, City, State, Country)
VALUES
(1, 'SP001', 'John Doe', 101, 'New York', 'NY', 'USA'),
(2, 'SP002', 'Jane Smith', 102, 'Los Angeles', 'CA', 'USA'),
(3, 'SP003', 'David Lee', 103, 'Chicago', 'IL', 'USA'),
(4, 'SP004', 'Emily Chen', 104, 'Houston', 'TX', 'USA'),
(5, 'SP005', 'Michael Kim', 105, 'Miami', 'FL', 'USA'),
(6, 'SP006', 'Karen Wong', 106, 'Seattle', 'WA', 'USA'),
(7, 'SP007', 'Tom Brown', 107, 'San Francisco', 'CA', 'USA'),
(8, 'SP008', 'Lisa Davis', 108, 'Boston', 'MA', 'USA'),
(9, 'SP009', 'Andrew Johnson', 109, 'Dallas', 'TX', 'USA'),
(10, 'SP010', 'Olivia Lee', 110, 'Denver', 'CO', 'USA'),
(11, 'SP011', 'James Kim', 111, 'Toronto', 'ON', 'Canada'),
(12, 'SP012', 'Sophie Martin', 112, 'Montreal', 'QC', 'Canada'),
(13, 'SP013', 'Lucas Brown', 113, 'Vancouver', 'BC', 'Canada'),
(14, 'SP014', 'Grace Lee', 114, 'Calgary', 'AB', 'Canada'),
(15, 'SP015', 'William Wong', 115, 'Edmonton', 'AB', 'Canada');
```

```
INSERT INTO DimStores (StoreID, StoreAltID, StoreName, StoreLocation,
City, State, Country)
VALUES
(1, 'ST001', 'ABC Mart', '123 Main St', 'New York', 'NY', 'USA'),
(2, 'ST002', 'XYZ Store', '456 1st Ave', 'Los Angeles', 'CA', 'USA'),
(3, 'ST003', 'The Fashion Spot', '789 5th Ave', 'New York', 'NY', 'USA'),
(4, 'ST004', 'Fashionable Finds', '333 Michigan Ave', 'Chicago', 'IL', 'USA'),
(5, 'ST005', 'The Outlet Shop', '1000 3rd St', 'San Francisco', 'CA', 'USA'),
(6, 'ST006', 'Sunny Beach Wear', '4567 Beach Blvd', 'Miami', 'FL', 'USA'),
(7, 'ST007', 'Urban Street Wear', '890 Broadway', 'New York', 'NY', 'USA'),
(8, 'ST008', 'Sporting Goods Co.', '7777 Sports Dr', 'Denver', 'CO', 'USA'),
(9, 'ST009', 'Gadgets Galore', '555 Tech St', 'Seattle', 'WA', 'USA'),
(10, 'ST010', 'Outdoor Gear Shop', '432 Park Ave', 'Salt Lake City', 'UT', 'USA'),
(11, 'ST011', 'Home Decor Haven', '2222 Home Ave', 'Houston', 'TX', 'USA'),
(12, 'ST012', 'Bridal Bliss', '987 Bridal Way', 'Boston', 'MA', 'USA'),
(13, 'ST013', 'Artisan Crafts', '444 Art St', 'Portland', 'OR', 'USA'),
(14, 'ST014', 'The Pet Store', '123 Pet Ave', 'Austin', 'TX', 'USA'),
(15, 'ST015', 'Green Thumb Garden', '555 Garden Rd', 'San Diego', 'CA',
'USA');

INSERT INTO DimTime (TimeAltKey, Time, Time30, Hour30,
MinuteNumber, SecondNumber, TimeInSecond, HourlyBucket,
DayTimeBucketGroupKey, DayTimeBucket)
VALUES
(1, '01:00:00', '01:00 AM', 1, 0, 0, 3600, '1 AM - 2 AM', 1, 'Early Morning'),
(2, '12:00:00', '12:00 PM', 12, 0, 0, 43200, '12 PM - 1 PM', 2, 'Midday'),
(3, '22:30:00', '10:30 PM', 10, 30, 0, 81000, '10 PM - 11 PM', 3, 'Late Evening');

INSERT INTO FactProductSales (TransactionId, SalesInvoiceNumber,
SalesDateKey, SalesTimeKey, SalesTimeAltKey, StoreID, CustomerID,
ProductID, SalesPersonID, Quantity, TotalAmount, DateKey, TimeKey)
VALUES
(1, 1001, 1, 1, 1, 1, 1, 1, 1, 2, 100.00, '2023-01-01', '01:00:00'),
(2, 1002, 2, 2, 2, 2, 2, 2, 2, 3, 150.00, '2023-01-01', '02:00:00'),
(3, 1003, 2, 3, 3, 3, 3, 3, 3, 1, 50.00, '2023-01-01', '03:00:00');
```

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	21:29:37	INSERT INTO FactProductSales (TransactionId, SalesInvoiceNumber, Sales...	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.125 sec

Result Grid | Filter Rows: | Edit:

CustomerID	CustomerAltID	CustomerName	Gender
1	CUST001	John Smith	M
2	CUST002	Jane Doe	F
3	CUST003	Bob Johnson	M
4	CUST004	Emily Davis	F
5	CUST005	Mark Lee	M
6	CUST006	Sarah Wilson	F
7	CUST007	David Brown	M

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

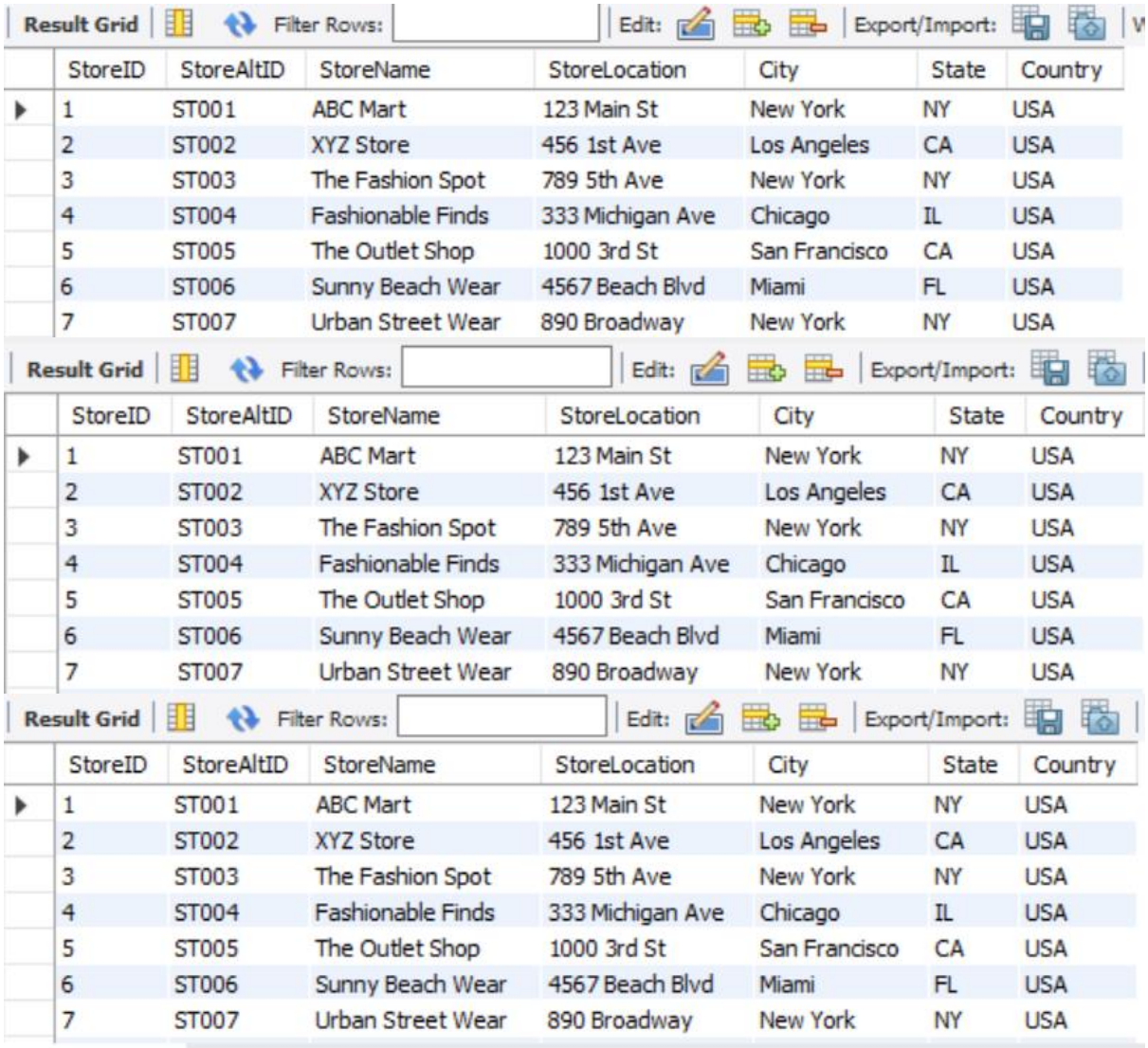
DateKey	date	FullDateUK	FullDateUSA	DayOfMonth	DaySuffix	DayName	DayOfWeekUSA	DayOfWeekUK	DayOfWeekInMonth	DayOfWeekInYear
1	2022-01-01	01/01/2022	01/01/2022	1	1st	Saturday	7	6	1	5
2	2022-01-02	02/01/2022	01/02/2022	2	2nd	Sunday	1	7	1	6
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

Result Grid | Filter Rows: | Edit: | Export/Import:

ProductKey	ProductAltKey	ProductName	ProductActualCost	ProductSalesCost
1	P00001	Widget 1	10.00	15.00
2	P00002	Widget 2	12.50	18.75
3	P00003	Widget 3	15.00	22.50
4	P00004	Widget 4	17.50	26.25
5	P00005	Widget 5	20.00	30.00
6	P00006	Widget 6	22.50	33.75

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Con

SalesPersonID	SalesPersonAltID	SalesPersonName	StoreID	City	State	Country
1	SP001	John Doe	101	New York	NY	USA
2	SP002	Jane Smith	102	Los Angeles	CA	USA
3	SP003	David Lee	103	Chicago	IL	USA
4	SP004	Emily Chen	104	Houston	TX	USA
5	SP005	Michael Kim	105	Miami	FL	USA
6	SP006	Karen Wong	106	Seattle	WA	USA
7	SP007	Tom Brown	107	San Francisco	CA	USA



Result Grid | Filter Rows: | Edit: | Export/Import:

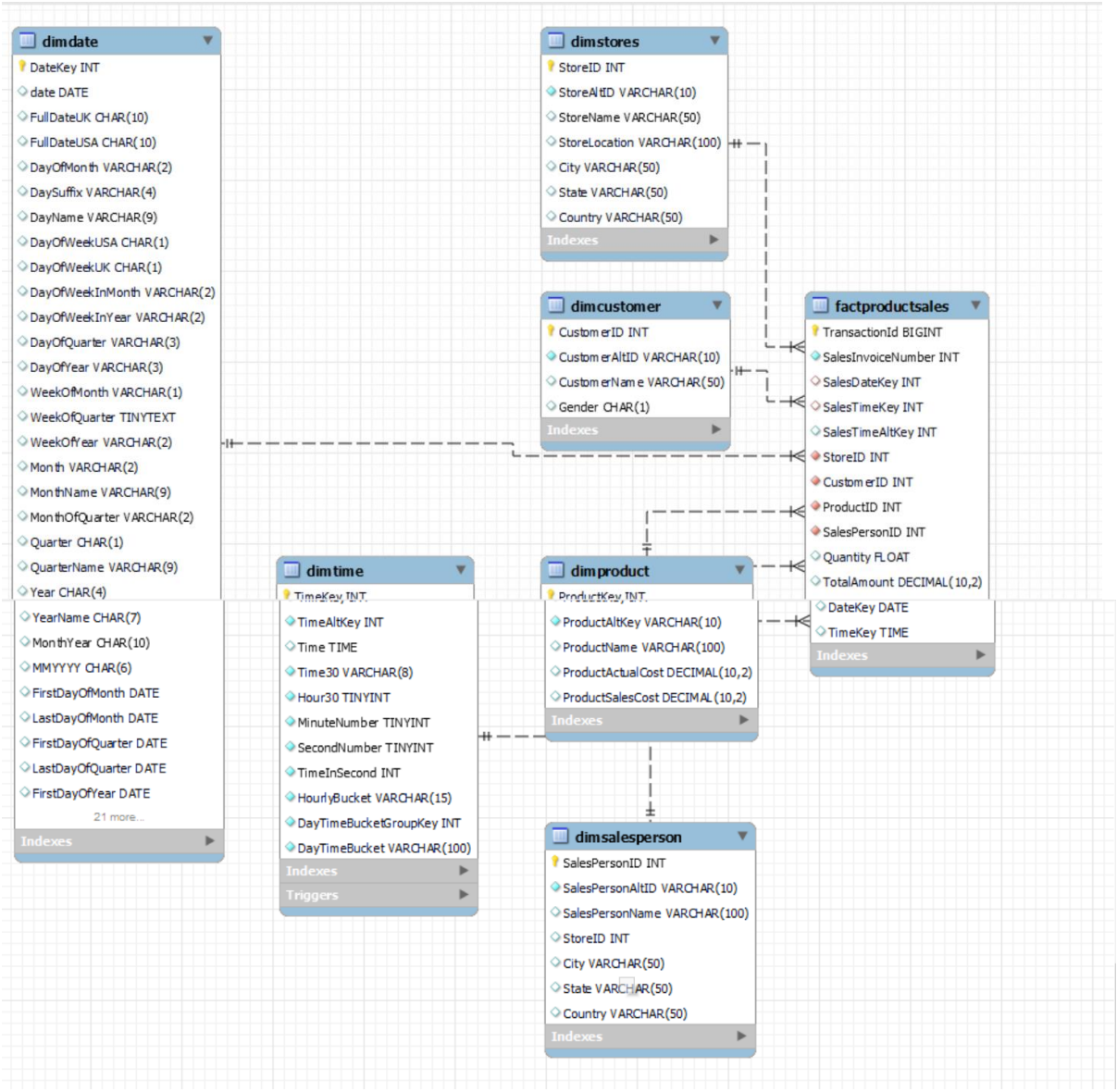
StoreID	StoreAltID	StoreName	StoreLocation	City	State	Country
1	ST001	ABC Mart	123 Main St	New York	NY	USA
2	ST002	XYZ Store	456 1st Ave	Los Angeles	CA	USA
3	ST003	The Fashion Spot	789 5th Ave	New York	NY	USA
4	ST004	Fashionable Finds	333 Michigan Ave	Chicago	IL	USA
5	ST005	The Outlet Shop	1000 3rd St	San Francisco	CA	USA
6	ST006	Sunny Beach Wear	4567 Beach Blvd	Miami	FL	USA
7	ST007	Urban Street Wear	890 Broadway	New York	NY	USA

Result Grid | Filter Rows: | Edit: | Export/Import:

StoreID	StoreAltID	StoreName	StoreLocation	City	State	Country
1	ST001	ABC Mart	123 Main St	New York	NY	USA
2	ST002	XYZ Store	456 1st Ave	Los Angeles	CA	USA
3	ST003	The Fashion Spot	789 5th Ave	New York	NY	USA
4	ST004	Fashionable Finds	333 Michigan Ave	Chicago	IL	USA
5	ST005	The Outlet Shop	1000 3rd St	San Francisco	CA	USA
6	ST006	Sunny Beach Wear	4567 Beach Blvd	Miami	FL	USA
7	ST007	Urban Street Wear	890 Broadway	New York	NY	USA

Result Grid | Filter Rows: | Edit: | Export/Import:

StoreID	StoreAltID	StoreName	StoreLocation	City	State	Country
1	ST001	ABC Mart	123 Main St	New York	NY	USA
2	ST002	XYZ Store	456 1st Ave	Los Angeles	CA	USA
3	ST003	The Fashion Spot	789 5th Ave	New York	NY	USA
4	ST004	Fashionable Finds	333 Michigan Ave	Chicago	IL	USA
5	ST005	The Outlet Shop	1000 3rd St	San Francisco	CA	USA
6	ST006	Sunny Beach Wear	4567 Beach Blvd	Miami	FL	USA
7	ST007	Urban Street Wear	890 Broadway	New York	NY	USA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DayOfYear VARCHAR(3)
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WeekOfYear VARCHAR(2)
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MonthOfQuarter VARCHAR(2)
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QuarterName VARCHAR(9)
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MonthYear CHAR(10)
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LastDayOfMonth DATE
FirstDayOfQuarter DATE
LastDayOfQuarter DATE
FirstDayOfYear DATE
21 more...
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City VARCHAR(50)
State VARCHAR(50)
Country VARCHAR(50)
Indexes
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Gender CHAR(1)
Indexes
factproductsales
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SalesTimeKey INT
SalesTimeAltKey INT
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TimeKey TIME
Indexes
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TimeAltKey INT
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SecondNumber TINYINT
TimeInSecond INT
HourlyBucket VARCHAR(15)
DayTimeBucketGroupKey INT
DayTimeBucket VARCHAR(100)
Indexes
Triggers
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Country VARCHAR(50)
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