**Assignment: 07**

**PRN: 22510111**

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**1) Implementing the Data Warehouse schema (SQL Queries):**

CREATE DATABASE Sales\_DW;

USE Sales\_DW;

CREATE TABLE DimCustomer (

CustomerID INT PRIMARY KEY AUTO\_INCREMENT,

CustomerAltID VARCHAR(10) NOT NULL,

CustomerName VARCHAR(50),

Gender VARCHAR(20)

);

INSERT INTO DimCustomer (CustomerAltID, CustomerName, Gender) 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');

CREATE TABLE DimProduct (

ProductKey INT PRIMARY KEY AUTO\_INCREMENT,

ProductAltKey VARCHAR(10) NOT NULL,

ProductName VARCHAR(100),

ProductActualCost DECIMAL(10,2),

ProductSalesCost DECIMAL(10,2)

);

INSERT INTO DimProduct (ProductAltKey, ProductName, ProductActualCost,

ProductSalesCost) VALUES

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

('ITM-002', 'Rice Grains 1kg', 22.50, 24.00),

('ITM-003', 'SunFlower Oil 1 ltr', 42.00, 43.50),

('ITM-004', 'Nirma Soap', 18.00, 20.00),

('ITM-005', 'Arial Washing Powder 1kg', 135.00, 139.00);

CREATE TABLE DimStores (

StoreID INT PRIMARY KEY AUTO\_INCREMENT,

|  |
| --- |
| StoreAltID VARCHAR(10) NOT NULL,  StoreName VARCHAR(100),  StoreLocation VARCHAR(100),  City VARCHAR(100),  State VARCHAR(100),  Country VARCHAR(100)  );    INSERT INTO DimStores (StoreAltID, StoreName, StoreLocation, City, State, Country) VALUES  ('LOC-A1', 'X-Mart', 'S.P. RingRoad', 'Ahmedabad', 'Guj', 'India'),  ('LOC-A2', 'X-Mart', 'Maninagar', 'Ahmedabad', 'Guj', 'India'),  ('LOC-A3', 'X-Mart', 'Sivranjani', 'Ahmedabad', 'Guj', 'India');    CREATE TABLE DimSalesPerson (  SalesPersonID INT PRIMARY KEY AUTO\_INCREMENT,  SalesPersonAltID VARCHAR(10) NOT NULL,  SalesPersonName VARCHAR(100),  StoreID INT,  City VARCHAR(100),  State VARCHAR(100),  Country VARCHAR(100),  FOREIGN KEY (StoreID) REFERENCES DimStores(StoreID) ON DELETE CASCADE  );    INSERT INTO DimSalesPerson (SalesPersonAltID, SalesPersonName, StoreID, City, State, Country) VALUES  ('SP-DMSPR1', 'Ashish', 1, 'Ahmedabad', 'Guj', 'India'),  ('SP-DMSPR2', 'Ketan', 1, 'Ahmedabad', 'Guj', 'India'),  ('SP-DMNGR1', 'Srinivas', 2, 'Ahmedabad', 'Guj', 'India'),  ('SP-DMNGR2', 'Saad', 2, 'Ahmedabad', 'Guj', 'India'),  ('SP-DMSVR1', 'Jasmin', 3, 'Ahmedabad', 'Guj', 'India'),  ('SP-DMSVR2', 'Jacob', 3, 'Ahmedabad', 'Guj', 'India');    CREATE TABLE FactProductSales (  TransactionId BIGINT PRIMARY KEY AUTO\_INCREMENT,  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 DECIMAL(10,2),

ProductActualCost DECIMAL(10,2),

Deviation FLOAT,

FOREIGN KEY (StoreID) REFERENCES DimStores(StoreID) ON DELETE CASCADE,

FOREIGN KEY (CustomerID) REFERENCES DimCustomer(CustomerID) ON DELETE

CASCADE,

FOREIGN KEY (ProductID) REFERENCES DimProduct(ProductKey) ON DELETE CASCADE,

FOREIGN KEY (SalesPersonID) REFERENCES DimSalesPerson(SalesPersonID) ON DELETE

CASCADE

);

INSERT INTO FactProductSales (SalesInvoiceNumber, SalesDateKey, SalesTimeKey,

SalesTimeAltKey, StoreID, CustomerID, ProductID, SalesPersonID, Quantity,

ProductActualCost, SalesTotalCost, Deviation) 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);

**2) Performed some query operations on it:**

SELECT s.StoreName, SUM(f.SalesTotalCost) AS Total\_Sales

FROM FactProductSales f

JOIN DimStores s ON f.StoreID = s.StoreID

GROUP BY s.StoreName

ORDER BY Total\_Sales DESC;

Ouput :



SELECT p.ProductName, SUM(f.Quantity) AS Total\_Quantity\_Sold

FROM FactProductSales f

JOIN DimProduct p ON f.ProductID = p.ProductKey

GROUP BY p.ProductName

ORDER BY Total\_Quantity\_Sold DESC;



SELECT sp.SalesPersonName, SUM(f.SalesTotalCost) AS Total\_Sales

FROM FactProductSales f

JOIN DimSalesPerson sp ON f.SalesPersonID = sp.SalesPersonID

GROUP BY sp.SalesPersonName ORDER BY Total\_Sales DESC;



SELECT SalesDateKey, SUM(SalesTotalCost) AS DailySales

FROM FactProductSales

GROUP BY SalesDateKey ORDER BY SalesDateKey;

