**Exercise 1: Ranking and Window Functions**

CREATE DATABASE ProductRankingDB;

GO

USE ProductRankingDB;

GO

CREATE TABLE Products (

ProductID INT PRIMARY KEY,

ProductName VARCHAR(100),

Category VARCHAR(100),

Price DECIMAL(10,2)

);

GO

INSERT INTO Products (ProductID, ProductName, Category, Price) VALUES

(1, 'Laptop A', 'Electronics', 1000.00),

(2, 'Laptop B', 'Electronics', 950.00),

(3, 'Laptop C', 'Electronics', 1000.00),

(4, 'Phone A', 'Electronics', 800.00),

(5, 'Phone B', 'Electronics', 950.00),

(6, 'Shirt A', 'Clothing', 50.00),

(7, 'Shirt B', 'Clothing', 75.00),

(8, 'Jacket A', 'Clothing', 100.00),

(9, 'Jacket B', 'Clothing', 100.00),

(10, 'Shoes A', 'Clothing', 90.00);

GO

WITH RankedProducts AS (

SELECT

ProductID,

ProductName,

Category,

Price,

ROW\_NUMBER() OVER (PARTITION BY Category ORDER BY Price DESC) AS RowNum,

RANK() OVER (PARTITION BY Category ORDER BY Price DESC) AS RankNum,

DENSE\_RANK() OVER (PARTITION BY Category ORDER BY Price DESC) AS DenseRankNum

FROM Products

)

SELECT \*

FROM RankedProducts

WHERE RowNum <= 3

OR RankNum <= 3

OR DenseRankNum <= 3

ORDER BY Category, Price DESC;

**OUTPUT:**

