Alessia Monasteri – DA PT 01-23

***MODULO DI RECUPERO SQL***

***ESERCITAZIONE FINALE 24-08-23***

**CONSEGNA**

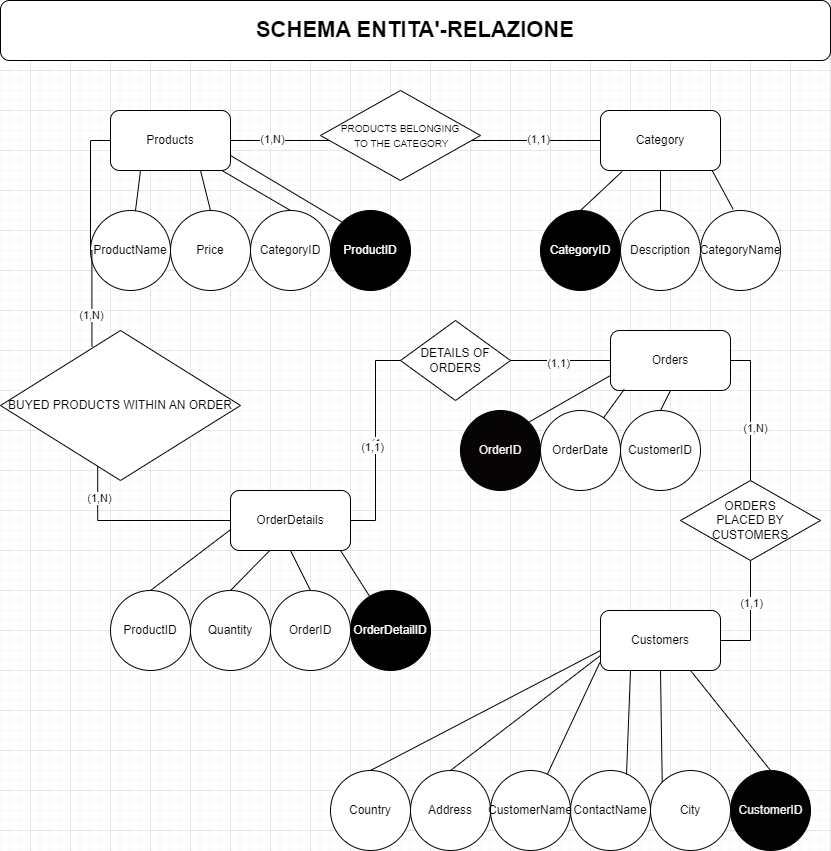
A partire da un caso di studio di suo interesse (es. ecommerce di prodotti cosmetici; dipendenti di una multinazionale farmaceutica, personale amministrativo, docente e studenti di un liceo; utenti, pagine, gruppi di un social network), si esegua la progettazione di una base dati (almeno 5 relazioni dello schema concettuale). La progettazione consiste di un documento con:

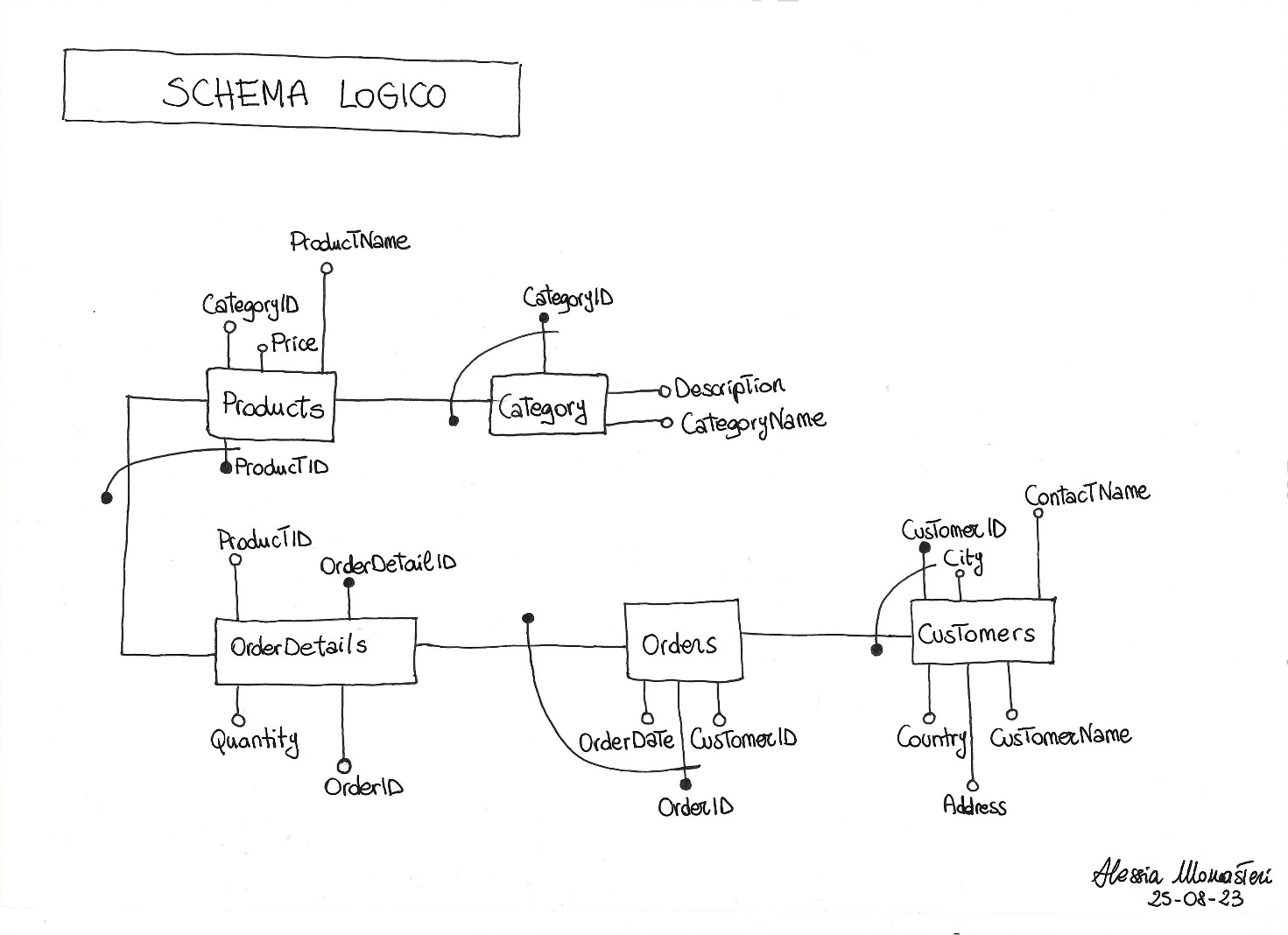
* Descrizione caso di studio scelto
* Modello ER
* Modello logico
* Progettazione fisica (codice DDL e DML per la creazione della base di dati, delle tabelle, delle chiavi primarie ed esterne, degli attributi), creare delle viste.
* Almeno 10 interrogazioni (tutte con almeno due tra raggruppamenti e ordinamenti, join e date)

**DESCRIZIONE**

Per questa esercitazione finale ho preso in considerazione come caso di studio il DataBase di W3School di un'azienda che vende prodotti alimentari.

Ho considerato le entità Ordini e Dettagli\_Ordini come tabelle dei fatti e come tabelle anagrafiche le entità Categorie, Prodotti e Clienti.





**PROGETTAZIONE FISICA**

CREATE SCHEMA esercitazione;

USE esercitazione;

CREATE TABLE category

(CategoryID INT NOT NULL,

CategoryName VARCHAR(45) NOT NULL,

Description LONGTEXT NULL,

PRIMARY KEY (CategoryID));

INSERT INTO category (CategoryID, CategoryName, Description)

VALUES

(1, 'Beverages', 'Soft drinks, coffees, teas, beers and ales'),

(2, 'Condiments', 'Sweet and savory sauces, relishes, spreads and seasonings'),

(3, 'Confections', 'Desserts, candies and sweet breads'),

(4, 'Dairy Products', 'Cheeses'),

(5, 'Grains/Cereals', 'Breads, crackers, pasta and cereal'),

(6, 'Meat/Poultry', 'Prepared meats'),

(7, 'Produce', 'Dried fruit and bean curd'),

(8, 'Seafood', 'Seaweed and fish');

CREATE TABLE products

(ProductID INT NOT NULL,

ProductName VARCHAR(45) NOT NULL,

CategoryID INT NOT NULL,

Price DOUBLE NOT NULL,

PRIMARY KEY (ProductID));

INSERT INTO products (ProductID, ProductName, CategoryID, Price)

VALUES

(1,'Chais',1,18),

(2,'Chang',1,19),

(3,'Aniseed Syrup',2,10),

(4,'Chef Anton\'s Cajun Seasoning',2,22),

(5,'Chef Anton\'s Gumbo Mix',2,21.35),

(6,'Grandma\'s Boysenberry Spread',2,25),

(7,'Uncle Bob\'s Organic Dried Pears',7,30),

(8,'Northwoods Cranberry Sauce',2,40),

(9,'Mishi Kobe Niku',6,97),

(10,'Ikura',8,31),

(11,'Queso Cabrales',4,21),

(12,'Queso Manchego La Pastora',4,38),

(13,'Konbu',8,6),

(14,'Tofu',7,23.25),

(15,'Genen Shouyu',2,15.5),

(16,'Pavlova',3,17.45),

(17,'Alice Mutton',6,39),

(18,'Carnarvon Tigers',8,62.5),

(19,'Teatime Chocolate Biscuits',3,9.2),

(20,'Sir Rodney\'s Marmalade',3,81),

(21,'Sir Rodney\'s Scones',3,10),

(22,'Gustaf\'s Knäckebröd',5,21),

(23,'Tunnbröd',5,9),

(24,'Guaraná Fantástica',1,4.5),

(25,'NuNuCa Nuß-Nougat-Creme',3,14),

(26,'Gumbär Gummibärchen',3,31.23),

(27,'Schoggi Schokolade',3,43.9),

(28,'Rössle Sauerkraut',7,45.6),

(29,'Thüringer Rostbratwurst',6,123.79),

(30,'Nord-Ost Matjeshering',8,25.89),

(31,'Gorgonzola Telino',4,12.5),

(32,'Mascarpone Fabioli',4,32),

(33,'Geitost',4,2.5),

(34,'Sasquatch Ale',1,14),

(35,'Steeleye Stout',1,18),

(36,'Inlagd Sill',8,19),

(37,'Gravad lax',8,26),

(38,'Côte de Blaye',1,263.5),

(39,'Chartreuse verte',1,18),

(40,'Boston Crab Meat',8,18.4),

(41,'Jack\'s New England Clam Chowder',8,9.65),

(42,'Singaporean Hokkien Fried Mee',5,14),

(43,'Ipoh Coffee',1,46),

(44,'Gula Malacca',2,19.45),

(45,'Røgede sild',8,9.5),

(46,'Spegesild',8,12),

(47,'Zaanse koeken',3,9.5),

(48,'Chocolade',3,12.75),

(49,'Maxilaku',3,20),

(50,'Valkoinen suklaa',3,16.25),

(51,'Manjimup Dried Apples',7,53),

(52,'Filo Mix',5,7),

(53,'Perth Pasties',6,32.8),

(54,'Tourtière',6,7.45),

(55,'Pâté chinois',6,24),

(56,'Gnocchi di nonna Alice',5,38),

(57,'Ravioli Angelo',5,19.5),

(58,'Escargots de Bourgogne',8,13.25),

(59,'Raclette Courdavault',4,55),

(60,'Camembert Pierrot',4,34),

(61,'Sirop d\'érable',2,28.5),

(62,'Tarte au sucre',3,49.3),

(63,'Vegie-spread',2,43.9),

(64,'Wimmers gute Semmelknödel',5,33.25),

(65,'Louisiana Fiery Hot Pepper Sauce',2,21.05),

(66,'Louisiana Hot Spiced Okra',2,17),

(67,'Laughing Lumberjack Lager',1,14),

(68,'Scottish Longbreads',3,12.5),

(69,'Gudbrandsdalsost',4,36),

(70,'Outback Lager',1,15),

(71,'Fløtemysost',4,21.5),

(72,'Mozzarella di Giovanni',4,34.8),

(73,'Röd Kaviar',8,15),

(74,'Longlife Tofu',7,10),

(75,'Rhönbräu Klosterbier',1,7.75),

(76,'Lakkalikööri',1,18),

(77,'Original Frankfurter grüne Soße',2,13);

CREATE TABLE orderdetails

(OrderDetailID INT NOT NULL,

OrderID INT NOT NULL,

ProductID INT NOT NULL,

Quantity INT NOT NULL,

PRIMARY KEY (OrderDetailID));

INSERT INTO OrderDetails (OrderDetailID, OrderID, ProductID, Quantity)

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(514,10442,11,30),

(515,10442,54,80),

(516,10442,66,60),

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(518,10443,28,12);

CREATE TABLE customers

(CustomerID INT NOT NULL,

CustomerName VARCHAR(45) NOT NULL,

ContactName VARCHAR(45) NOT NULL,

Address VARCHAR(45) NOT NULL,

City VARCHAR(45) NOT NULL,

Country VARCHAR(45) NOT NULL,

PRIMARY KEY (CustomerID));

INSERT INTO customers (CustomerID, CustomerName, ContactName, Address, City, Country)

VALUES

(1, 'Alfreds Futterkiste', 'Maria Anders', 'Obere Str. 57', 'Berlin', 'Germany'),

(2, 'Ana Trujillo Emparedados y helados', 'Ana Trujillo', 'Avda. de la Constitución 2222', 'México D.F.', 'Mexico'),

(3, 'Antonio Moreno Taquería', 'Antonio Moreno', 'Mataderos 2312', 'México D.F.', 'Mexico'),

(4, 'Around the Horn', 'Thomas Hardy', '120 Hanover Sq.', 'London', 'UK'),

(5, 'Berglunds snabbköp', 'Christina Berglund', 'Berguvsvägen 8', 'Luleå', 'Sweden'),

(6, 'Blauer See Delikatessen', 'Hanna Moos', 'Forsterstr. 57', 'Mannheim', 'Germany'),

(7, 'Blondel père et fils', 'Frédérique Citeaux', '24, place Kléber', 'Strasbourg', 'France'),

(8, 'Bólido Comidas preparadas', 'Martín Sommer', 'C/ Araquil, 67', 'Madrid', 'Spain'),

(9, 'Bon app\'', 'Laurence Lebihans', '12, rue des Bouchers', 'Marseille', 'France'),

(10, 'Bottom-Dollar Marketse', 'Elizabeth Lincoln', '23 Tsawassen Blvd.', 'Tsawassen', 'Canada'),

(11, 'B\'s Beverages', 'Victoria Ashworth', 'Fauntleroy Circus', 'London', 'UK'),

(12, 'Cactus Comidas para llevar', 'Patricio Simpson', 'Cerrito 333', 'Buenos Aires', 'Argentina'),

(13, 'Centro comercial Moctezuma', 'Francisco Chang', 'Sierras de Granada 9993', 'México D.F.', 'Mexico'),

(14, 'Chop-suey Chinese', 'Yang Wang', 'Hauptstr. 29', 'Bern', 'Switzerland'),

(15, 'Comércio Mineiro', 'Pedro Afonso', 'Av. dos Lusíadas, 23', 'São Paulo', 'Brazil'),

(16, 'Consolidated Holdings', 'Elizabeth Brown', 'Berkeley Gardens 12 Brewery', 'London', 'UK'),

(17, 'Drachenblut Delikatessend', 'Sven Ottlieb', 'Walserweg 21', 'Aachen', 'Germany'),

(18, 'Du monde entier', 'Janine Labrune', '67, rue des Cinquante Otages', 'Nantes', 'France'),

(19, 'Eastern Connection', 'Ann Devon', '35 King George', 'London', 'UK'),

(20, 'Ernst Handel', 'Roland Mendel', 'Kirchgasse 6', 'Graz', 'Austria'),

(21, 'Familia Arquibaldo', 'Aria Cruz', 'Rua Orós, 92', 'São Paulo', 'Brazil'),

(22, 'FISSA Fabrica Inter. Salchichas S.A.', 'Diego Roel', 'C/ Moralzarzal, 86', 'Madrid', 'Spain'),

(23, 'Folies gourmandes', 'Martine Rancé', '184, chaussée de Tournai', 'Lille', 'France'),

(24, 'Folk och fä HB', 'Maria Larsson', 'Åkergatan 24', 'Bräcke', 'Sweden'),

(25, 'Frankenversand', 'Peter Franken', 'Berliner Platz 43', 'München', 'Germany'),

(26, 'France restauration', 'Carine Schmitt', '54, rue Royale', 'Nantes', 'France'),

(27, 'Franchi S.p.A.', 'Paolo Accorti', 'Via Monte Bianco 34', 'Torino', 'Italy'),

(28, 'Furia Bacalhau e Frutos do Mar', 'Lino Rodriguez', 'Jardim das rosas n. 32', 'Lisboa', 'Portugal'),

(29, 'Galería del gastrónomo', 'Eduardo Saavedra', 'Rambla de Cataluña, 23', 'Barcelona', 'Spain'),

(30, 'Godos Cocina Típica', 'José Pedro Freyre', 'C/ Romero, 33', 'Sevilla', 'Spain'),

(31, 'Gourmet Lanchonetes', 'André Fonseca', 'Av. Brasil, 442', 'Campinas', 'Brazil'),

(32, 'Great Lakes Food Market', 'Howard Snyder', '2732 Baker Blvd.', 'Eugene', 'USA'),

(33, 'GROSELLA-Restaurante', 'Manuel Pereira', '5ª Ave. Los Palos Grandes', 'Caracas', 'Venezuela'),

(34, 'Hanari Carnes', 'Mario Pontes', 'Rua do Paço, 67', 'Rio de Janeiro', 'Brazil'),

(35, 'HILARIÓN-Abastos', 'Carlos Hernández', 'Carrera 22 con Ave. Carlos Soublette #8-35', 'San Cristóbal', 'Venezuela'),

(36, 'Hungry Coyote Import Store', 'Yoshi Latimer', 'City Center Plaza 516 Main St.', 'Elgin', 'USA'),

(37, 'Hungry Owl All-Night Grocers', 'Patricia McKenna', '8 Johnstown Road', 'Cork', 'Ireland'),

(38, 'Island Trading', 'Helen Bennett', 'Garden House Crowther Way', 'Cowes', 'UK'),

(39, 'Königlich Essen', 'Philip Cramer', 'Maubelstr. 90', 'Brandenburg', 'Germany'),

(40, 'La corne d\'abondance', 'Daniel Tonini', '67, avenue de l\'Europe', 'Versailles', 'France'),

(41, 'La maison d\'Asie', 'Annette Roulet', '1 rue Alsace-Lorraine', 'Toulouse', 'France'),

(42, 'Laughing Bacchus Wine Cellars', 'Yoshi Tannamuri', '1900 Oak St.', 'Vancouver', 'Canada'),

(43, 'Lazy K Kountry Store', 'John Steel', '12 Orchestra Terrace', 'Walla Walla', 'USA'),

(44, 'Lehmanns Marktstand', 'Renate Messner', 'Magazinweg 7', 'Frankfurt a.M.', 'Germany'),

(45, 'Let\'s Stop N Shop', 'Jaime Yorres', '87 Polk St. Suite 5', 'San Francisco', 'USA'),

(46, 'LILA-Supermercado', 'Carlos González', 'Carrera 52 con Ave. Bolívar #65-98 Llano Largo', 'Barquisimeto', 'Venezuela'),

(47, 'LINO-Delicateses', 'Felipe Izquierdo', 'Ave. 5 de Mayo Porlamar', 'I. de Margarita', 'Venezuela'),

(48, 'Lonesome Pine Restaurant', 'Fran Wilson', '89 Chiaroscuro Rd.', 'Portland', 'USA'),

(49, 'Magazzini Alimentari Riuniti', 'Giovanni Rovelli', 'Via Ludovico il Moro 22', 'Bergamo', 'Italy'),

(50, 'Maison Dewey', 'Catherine Dewey', 'Rue Joseph-Bens 532', 'Bruxelles', 'Belgium'),

(51, 'Mère Paillarde', 'Jean Fresnière', '43 rue St. Laurent', 'Montréal', 'Canada'),

(52, 'Morgenstern Gesundkost', 'Alexander Feuer', 'Heerstr. 22', 'Leipzig', 'Germany'),

(53, 'North/South', 'Simon Crowther', 'South House 300 Queensbridge', 'London', 'UK'),

(54, 'Océano Atlántico Ltda.', 'Yvonne Moncada', 'Ing. Gustavo Moncada 8585 Piso 20-A', 'Buenos Aires', 'Argentina'),

(55, 'Old World Delicatessen', 'Rene Phillips', '2743 Bering St.', 'Anchorage', 'USA'),

(56, 'Ottilies Käseladen', 'Henriette Pfalzheim', 'Mehrheimerstr. 369', 'Köln', 'Germany'),

(57, 'Paris spécialités', 'Marie Bertrand', '265, boulevard Charonne', 'Paris', 'France'),

(58, 'Pericles Comidas clásicas', 'Guillermo Fernández', 'Calle Dr. Jorge Cash 321', 'México D.F.', 'Mexico'),

(59, 'Piccolo und mehr', 'Georg Pipps', 'Geislweg 14', 'Salzburg', 'Austria'),

(60, 'Princesa Isabel Vinhoss', 'Isabel de Castro', 'Estrada da saúde n. 58', 'Lisboa', 'Portugal'),

(61, 'Que Delícia', 'Bernardo Batista', 'Rua da Panificadora, 12', 'Rio de Janeiro', 'Brazil'),

(62, 'Queen Cozinha', 'Lúcia Carvalho', 'Alameda dos Canàrios, 891', 'São Paulo', 'Brazil'),

(63, 'QUICK-Stop', 'Horst Kloss', 'Taucherstraße 10', 'Cunewalde', 'Germany'),

(64, 'Rancho grande', 'Sergio Gutiérrez', 'Av. del Libertador 900', 'Buenos Aires', 'Argentina'),

(65, 'Rattlesnake Canyon Grocery', 'Paula Wilson', '2817 Milton Dr.', 'Albuquerque', 'USA'),

(66, 'Reggiani Caseifici', 'Maurizio Moroni', 'Strada Provinciale 124', 'Reggio Emilia', 'Italy'),

(67, 'Ricardo Adocicados', 'Janete Limeira', 'Av. Copacabana, 267', 'Rio de Janeiro', 'Brazil'),

(68, 'Richter Supermarkt', 'Michael Holz', 'Grenzacherweg 237', 'Genève', 'Switzerland'),

(69, 'Romero y tomillo', 'Alejandra Camino', 'Gran Vía, 1', 'Madrid', 'Spain'),

(70, 'Santé Gourmet', 'Jonas Bergulfsen', 'Erling Skakkes gate 78', 'Stavern', 'Norway'),

(71, 'Save-a-lot Markets', 'Jose Pavarotti', '187 Suffolk Ln.', 'Boise', 'USA'),

(72, 'Seven Seas Imports', 'Hari Kumar', '90 Wadhurst Rd.', 'London', 'UK'),

(73, 'Simons bistro', 'Jytte Petersen', 'Vinbæltet 34', 'København', 'Denmark'),

(74, 'Spécialités du monde', 'Dominique Perrier', '25, rue Lauriston', 'Paris', 'France'),

(75, 'Split Rail Beer & Ale', 'Art Braunschweiger', 'P.O. Box 555', 'Lander', 'USA'),

(76, 'Suprêmes délices', 'Pascale Cartrain', 'Boulevard Tirou, 255', 'Charleroi', 'Belgium'),

(77, 'The Big Cheese', 'Liz Nixon', '89 Jefferson Way Suite 2', 'Portland', 'USA'),

(78, 'The Cracker Box', 'Liu Wong', '55 Grizzly Peak Rd.', 'Butte', 'USA'),

(79, 'Toms Spezialitäten', 'Karin Josephs', 'Luisenstr. 48', 'Münster', 'Germany'),

(80, 'Tortuga Restaurante', 'Miguel Angel Paolino', 'Avda. Azteca 123', 'México D.F.', 'Mexico'),

(81, 'Tradição Hipermercados', 'Anabela Domingues', 'Av. Inês de Castro, 414', 'São Paulo', 'Brazil'),

(82, 'Trail\'s Head Gourmet Provisioners', 'Helvetius Nagy', '722 DaVinci Blvd.', 'Kirkland', 'USA'),

(83, 'Vaffeljernet', 'Palle Ibsen', 'Smagsløget 45', 'Århus', 'Denmark'),

(84, 'Victuailles en stock', 'Mary Saveley', '2, rue du Commerce', 'Lyon', 'France'),

(85, 'Vins et alcools Chevalier', 'Paul Henriot', '59 rue de l\'Abbaye', 'Reims', 'France'),

(86, 'Die Wandernde Kuh', 'Rita Müller', 'Adenauerallee 900', 'Stuttgart', 'Germany'),

(87, 'Wartian Herkku', 'Pirkko Koskitalo', 'Torikatu 38', 'Oulu', 'Finland'),

(88, 'Wellington Importadora', 'Paula Parente', 'Rua do Mercado, 12', 'Resende', 'Brazil'),

(89, 'White Clover Markets', 'Karl Jablonski', '305 - 14th Ave. S. Suite 3B', 'Seattle', 'USA'),

(90, 'Wilman Kala', 'Matti Karttunen', 'Keskuskatu 45', 'Helsinki', 'Finland'),

(91, 'Wolski', 'Zbyszek', 'ul. Filtrowa 68', 'Walla', 'Poland');

CREATE TABLE orders

(OrderID INT NOT NULL,

CustomerID INT NOT NULL,

OrderDate DATE NOT NULL,

PRIMARY KEY (OrderID));

INSERT INTO orders (OrderID, CustomerID, OrderDate)

VALUES

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**QUERY**

Qui di seguito 10 domande che l'azienda potrebbe porsi in merito alla propria attività.

**1) QUALI SONO I PRODOTTI COMPRATI DAI CLIENTI MESSICANI NEL MESE DI LUGLIO?**

**INPUT**

SELECT p.ProductName

FROM Products AS p

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

JOIN Orders AS o

ON o.OrderID = od.OrderID

JOIN Customers AS c

ON o.CustomerID = c.CustomerID

WHERE c.Country = 'Mexico'

AND MONTH(o.OrderDate) = 7;

**OUTPUT**

Sir Rodney's Scones

Gravad lax

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**2) QUAL E' LA CATEGORIA CHE HA FATTURATO DI MENO NEGLI STATI UNITI?**

**INPUT**

CREATE VIEW Sales\_Cat (Sales, CategoryName) AS

SELECT cat.CategoryName, SUM(od.Quantity)\*SUM(p.Price) AS Sales

FROM Category AS cat

JOIN Products AS p

ON cat.CategoryID = p.CategoryID

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

JOIN Orders AS o

ON o.OrderID = od.OrderID

JOIN Customers AS c

ON c.CustomerID = o.CustomerID

WHERE Country = 'USA'

GROUP BY CategoryName;

SELECT MIN(Sales), MIN(CategoryName)

FROM Sales\_Cat;

**OUTPUT**

Beverages 8733

**3) QUALI SONO I PRODOTTI CHE COSTANO MENO DI 15 EURO (PREZZO UNITARIO)**

**E FANNO PARTE DELLA CATEGORIA CHEESES (Description)? ORDINA LA SELEZIONE IN MANIERA DECRESCENTE.**

**INPUT**

SELECT p.ProductName, p.Price

FROM Products AS p

JOIN Category AS c

ON p.CategoryID = c.CategoryID

WHERE c.Description = 'Cheeses'

AND Price < 15

ORDER BY p.Price DESC;

**OUTPUT**

Gorgonzola Telino 12.5

Geitost 2.5

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**4) QUAL E' IL PRODOTTO CON IL FATTURATO PIU' ALTO?**

**INPUT**

CREATE VIEW Sales\_prod AS

SELECT p.ProductName, SUM(od.Quantity)\*SUM(p.Price) AS Sales

FROM Products AS p

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

GROUP BY p.ProductName;

SELECT MAX(Sales), MAX(ProductName)

FROM Sales\_prod;

**OUTPUT**

Zaanse koeken 440835.5

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**5) QUAL E' IL PRODOTTO MENO COMPRATO?**

**INPUT**

CREATE VIEW q\_product AS

SELECT p.ProductName AS p\_Name, SUM(od.Quantity) AS qty

FROM Products AS p

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

GROUP BY p.ProductName;

SELECT MIN(p\_Name), MIN(qty)

FROM q\_product;

**OUTPUT**

Alice Mutton 5

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**6) QUANTI PRODOTTI SONO STATI VENDUTI IN MEDIA PER CATEGORIA?**

**INPUT**

CREATE VIEW Sales\_Cate AS

SELECT cat.CategoryName, AVG(od.Quantity)

FROM Category AS cat

JOIN Products AS p

ON cat.CategoryID = p.CategoryID

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

JOIN Orders AS o

ON o.OrderID = od.OrderID

JOIN Customers AS c

ON c.CustomerID = o.CustomerID

GROUP BY CategoryName;

SELECT \* FROM Sales\_Cate;

**OUTPUT**

Dairy Products 26.0100

Grains/Cereals 21.7143

Produce 21.6667

Seafood 21.5672

Condiments 28.2245

Confections 25.1190

Beverages 24.6129

Meat/Poultry 25.7600

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**7) QUANTI PRODOTTI SONO STATI COMPRATI A DICEMBRE IN TOTALE?**

**INPUT**

SELECT SUM(od.Quantity)

FROM Products AS p

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

JOIN Orders AS o

ON o.OrderID = od.OrderID

JOIN Customers AS c

ON o.CustomerID = c.CustomerID

WHERE MONTHNAME(o.OrderDate)='December';

**OUTPUT**

2200

**8) IN QUALI MESI (E RELATIVO ANNO) E’ STATO COMPRATO IL PRODOTTO “Gnocchi di nonna Alice”?**

**INPUT**

SELECT DISTINCT DATE\_FORMAT(OrderDate, '%M-%Y') AS DataOrdine

FROM Orders AS o

JOIN OrderDetails AS od

ON od.OrderID = o.OrderID

JOIN Products AS p

ON od.ProductID = p.ProductID

WHERE p.ProductName = 'Gnocchi di nonna Alice';

**OUTPUT**

|  |
| --- |
| July-1996 |
| September-1996 |
| October-1996 |
| November-1996 |
| December-1996 |
| January-1997 |
| February-1997 |

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**9) QUAL E' IL CLIENTE CHE HA SPESO PIU' DENARO A Londra?**

**INPUT**

CREATE VIEW SpesaCliente AS

SELECT c.ContactName AS CustomerName , SUM(od.Quantity)\*SUM(p.Price) AS Sales

FROM Category AS cat

JOIN Products AS p

ON cat.CategoryID = p.CategoryID

JOIN OrderDetails AS od

ON p.ProductID = od.ProductID

JOIN Orders AS o

ON o.OrderID = od.OrderID

JOIN Customers AS c

ON c.CustomerID = o.CustomerID

WHERE c.City = 'London'

GROUP BY c.ContactName;

SELECT MAX(Sales), MAX(CustomerName)

FROM SpesaCliente;

**OUTPUT**

Victoria Ashworth 56768.850000000006

**10) QUALI CLIENTI INGLESI O FRANCESI HANNO COMPRATO IL PRODOTTO 'Gnocchi di nonna Alice'?**

**IN QUALE CITTA' VIVONO? ORDINA LA SELEZIONE DALLA A ALLA Z PER CITTA'.**

**INPUT**

SELECT DISTINCT ContactName, City

FROM Customers AS c

JOIN Orders AS o

ON c.CustomerID = o.CustomerID

JOIN OrderDetails AS od

ON o.OrderID = od.OrderID

JOIN Products AS p

ON p.ProductID = od.ProductID

WHERE c.Country = 'UK' OR c.Country = 'France'

AND ProductName = 'Gnocchi di nonna Alice'

ORDER BY c.City;

**OUTPUT**

Helen Bennett Cowes

Victoria Ashworth London

Thomas Hardy London

Hari Kumar London

Ann Devon London

Elizabeth Brown London

Paul Henriot Reims

Frédérique Citeaux Strasbourg