

Coffee Ordering System

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The Idea

Our aim

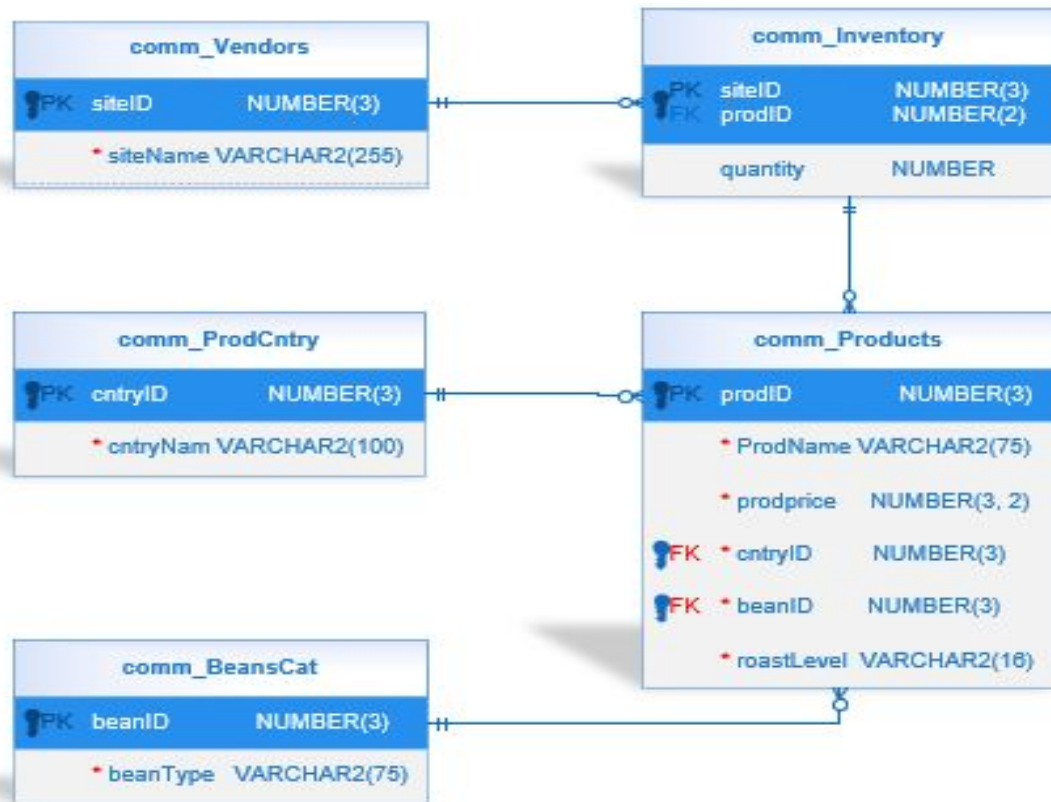
- Creating a sales process for ordering coffee from an e-commerce system

Requirements

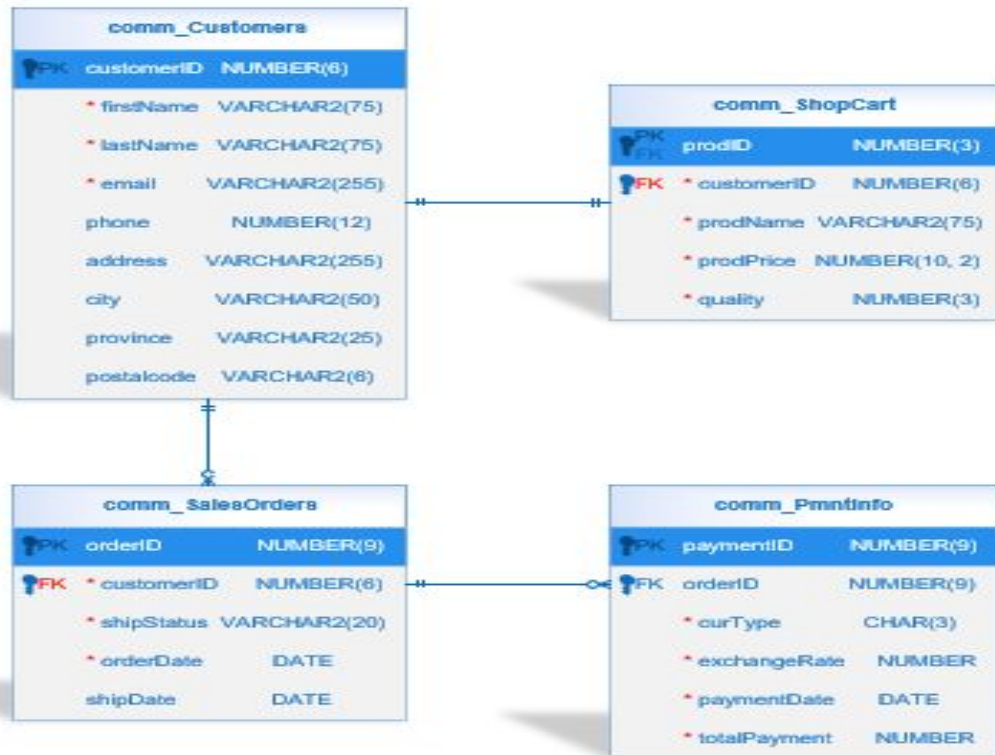
- Product / Inventory identification and tracking
- Customer payment and sales information
- Shipping status updates and order records



Products



Customers



SalesOrders

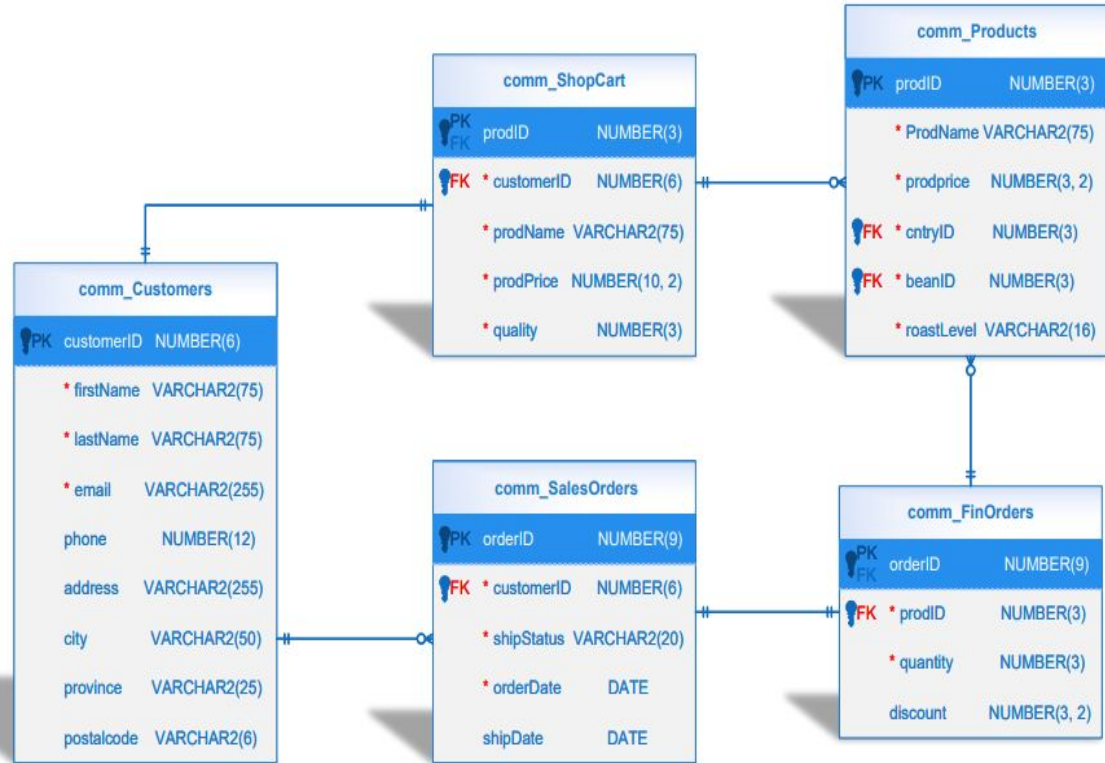


Table Description

comm_Products				
Field name	Original name	Data type	Constraint	Default value
prodID	productID	NUMBER(3)	PRIMARY KEY	
prodName	productName	VARCHAR2(75)	NOT NULL CHECK IN ('Odacio', 'Melozio', 'Stormio', 'Intenso', 'Elvazio', 'Giorno', 'Altesso', 'Monaro')	
prodPrice	productPrice	NUMBER(3, 2)	NOT NULL	
cntryID	countryID	NUMBER(3)	NOT NULL FOREIGN KEY (REFERENCE TO comm_ProdCntry)	
beanID		NUMBER(3)	NOT NULL FOREIGN KEY (REFERENCE TO comm_BeanCat)	
roastLevel		VARCHAR2(16)	NOT NULL CHECK IN ('light', 'medium', 'dark', 'black')	

Table Description cont'd

comm_BeansCat (BeansCategory)

Field name	Original name	Data type	Constraint	Default value
beanID		NUMBER(3)	PRIMARY KEY	
beanType		VARCHAR2(75)	NOT NULL CHECK IN ('Robusta', 'Excelsa', 'Liberica', 'Arabica', 'Unknown')	

comm_ProdCntry (ProductionCountry)

Field name	Original name	Data type	Constraint	Default value
cntryID	countryID	NUMBER(3)	PRIMARY KEY	
cntryName	countryName	VARCHAR2(100)	NOT NULL CHECK IN ('BRAZIL', 'VIETNAM', 'COLOMBIA',	

Table Description cont'd

comm_Inventory

Field name	Original name	Data type	Constraint	Default value
siteID		NUMBER(3)	PRIMARY KEY FOREIGN KEY (REFERENCE TO comm_Vendors)	
prodID		NUMBER(2)	PRIMARY KEY FOREIGN KEY (REFERENCE TO comm_Products)	
quantity		NUMBER		

comm_Vendors

Field name	Original name	Data type	Constraint	Default value
siteID		NUMBER(3)	PRIMARY KEY	
siteName		VARCHAR2(255)	NOT NULL	

Table Description cont'd

comm_Customers

Field name	Original name	Data type	Constraint	Default value
customerID		NUMBER(6)	PRIMARY KEY	
firstName		VARCHAR2(75)	NOT NULL	
lastName		VARCHAR2(75)	NOT NULL	
email		VARCHAR2(255)	NOT NULL	
phone		NUMBER(12)		
address		VARCHAR2(255)		
city		VARCHAR2(50)		
province		VARCHAR2(25)		
postalCode		VARCHAR2(6)		

Table Description cont'd

comm_ShopCart (ShoppingCart)				
Field name	Original name	Data type	Constraint	Default value
customerID		NUMBER(6)	NOT NULL FOREIGN KEY (REFERENCE TO comm_Customers)	
prodID	productID	NUMBER(3)	PRIMARY KEY FOREIGN KEY (REFERENCE TO comm_Products)	
prodName	productName	VARCHAR2(75)	NOT NULL	
prodPrice	productPrice	NUMBER(10, 2)	NOT NULL	
quantity		NUMBER(3)	NOT NULL	
status		VARCHAR2(20)	NOT NULL CHECK IN ('Y', 'N')	

Table Description cont'd

comm_SalesOrders

Field name	Original name	Data type	Constraint	Default value
orderID		NUMBER(9)	PRIMARY KEY	
customerID		NUMBER(6)	NOT NULL FOREIGN KEY (REFERENCE TO comm_Customers)	
shipStatus		VARCHAR2(20)	NOT NULL CHECK IN ('pending', 'processing', 'sent', 'delivered')	
orderDate		DATE	NOT NULL	
shipDate		DATE	NOT NULL	

Table Description cont'd

comm_PmntInfo (PaymentInformation)

Field name	Original name	Data type	Constraint	Default value
paymentID		NUMBER(9)	PRIMARY KEY	
orderID		NUMBER(9)	NOT NULL FOREIGN KEY (REFERENCE TO comm_SalesOrders)	
curType	currencyType	CHAR(3)	NOT NULL CHECK IN ('USD', 'CAD', 'CNY', 'EUR', 'MXN', 'YEN', 'WON', 'AUD')	
exchangeRate		NUMBER	NOT NULL DEFAULT	0
paymentDate		DATE	NOT NULL	
totalPayment		NUMBER	NOT NULL	

Table Description cont'd

comm_FinOrders (FinishedOrders)

Field name	Original name	Data type	Constraint	Default value
orderID		NUMBER(9)	PRIMARY KEY FOREIGN KEY (REFERENCE TO comm_SalesOrders)	
prodID		NUMBER(3)	NOT NULL FOREIGN KEY (REFERENCE TO comm_Products)	
quantity		NUMBER(3)	NOT NULL	
discount		NUMBER(3, 2)	DEFAULT	0

Table Creation (SQL)

comm_Customers

```
CREATE TABLE comm_Customers (  
    customerID NUMBER(6) PRIMARY KEY,  
    firstName VARCHAR2(75) NOT NULL,  
    lastName VARCHAR2(75) NOT NULL,  
    email VARCHAR2(255) NOT NULL,  
    phone NUMBER(12),  
    address VARCHAR2(255),  
    city VARCHAR2(50),  
    province VARCHAR2(25),  
    postalCode VARCHAR2(6)  
);
```

comm_BeansCat

```
CREATE TABLE comm_BeansCat (  
    beanID NUMBER(3) PRIMARY KEY,  
    beanType VARCHAR2(75) NOT NULL,  
  
    CONSTRAINT comm_BeansCat_beanType_ck  
    CHECK (beanType IN ('Robusta', 'Excelsa',  
        'Liberica', 'Arabica', 'Unknown'))  
);
```

comm_ProdCntry

```
CREATE TABLE comm_ProdCntry (  
    cntryID NUMBER(3) PRIMARY KEY,  
    cntryName VARCHAR2(100) NOT NULL,  
    CONSTRAINT  
    comm_ProdCntry_cntryName_ck CHECK  
    (cntryName IN ('BRAZIL', 'VIETNAM', 'COLOMBIA',  
        'INDONESIA', 'HONDURAS', 'ETHIOPIA', 'PERU',  
        'INDIA', 'GUATEMALA', 'UGANDA'))  
);
```

comm_Vendors

```
CREATE TABLE comm_Vendors (  
    siteID NUMBER(3) PRIMARY KEY,  
    siteName VARCHAR(255) NOT NULL  
);
```

Table Creation (SQL) cont'd

comm_Products

```
CREATE TABLE comm_Products (  
    prodID NUMBER(10),  
    prodName VARCHAR2(75) NOT NULL,  
    prodPrice NUMBER(10, 2) NOT NULL,  
    cntryID NUMBER(3) NOT NULL,  
    beanID NUMBER(3) NOT NULL,  
    roastLevel VARCHAR2(16) NOT NULL,  
    PRIMARY KEY (prodID),  
    CONSTRAINT comm_BeansCat_beanID_fk  
    FOREIGN KEY (beanID) REFERENCES  
    comm_BeansCat (beanID),  
    CONSTRAINT comm_ProdCntry_cntryID_fk  
    FOREIGN KEY (cntryID) REFERENCES  
    comm_ProdCntry (cntryID),  
    CONSTRAINT comm_Products_prodName_ck  
    CHECK (prodName IN ('Odacio', 'Melozio',  
    'Stormio', 'Intenso', 'Elvazio', 'Giorno', 'Altesso',  
    'Monaro')),  
    CONSTRAINT comm_Products_roastLevel_ck  
    CHECK (roastLevel IN ('light', 'medium', 'dark',  
    'black'))  
);
```

comm_ShopCart

```
CREATE TABLE comm_ShopCart (  
    customerID NUMBER(6) NOT NULL,  
    prodID NUMBER(10),  
    prodName VARCHAR2(75) NOT NULL,  
    prodPrice NUMBER(10, 2) NOT NULL,  
    quantity NUMBER(3) NOT NULL,  
    status VARCHAR2(20) NOT NULL,  
    PRIMARY KEY (prodID),  
    CONSTRAINT comm_ShopCart_customerID_fk  
    FOREIGN KEY (customerID) REFERENCES  
    comm_Customers (customerID),  
    CONSTRAINT comm_ShopCart_prodID_fk  
    FOREIGN KEY (prodID) REFERENCES  
    comm_Products (prodID),  
    CONSTRAINT comm_ShopCart_status_ck  
    CHECK (status IN ('Checked Out', 'Not Checked  
    Out'))  
);
```

Table Creation (SQL) cont'd

comm_FinOrders

```
CREATE TABLE comm_FinOrders (  
    orderID NUMBER(9),  
    prodId NUMBER(10) NOT NULL,  
    quantity NUMBER(3) NOT NULL,  
    discount NUMBER(10, 2) DEFAULT 0,  
    PRIMARY KEY (orderID),  
    CONSTRAINT comm_FinOrders_orderID_fk  
    FOREIGN KEY (orderID) REFERENCES  
    comm_SalesOrders (orderID),  
    CONSTRAINT comm_FinOrders_prodID_fk  
    FOREIGN KEY (prodID) REFERENCES  
    comm_Products (prodID)  
);
```

comm_SalesOrders

```
CREATE TABLE comm_SalesOrders (  
    orderID NUMBER(9) PRIMARY KEY,  
    customerID NUMBER(6) NOT NULL,  
    shipStatus VARCHAR2(20) NOT NULL,  
    orderDate DATE NOT NULL,  
    shipDate DATE,  
    CONSTRAINT  
    comm_SalesOrders_customerID_fk FOREIGN  
    KEY (customerID) REFERENCES  
    comm_Customers (customerID),  
    CONSTRAINT  
    comm_salesorders_shipStatus_ck CHECK  
    (shipStatus IN ('pending', 'processing', 'sent',  
    'delivered'))  
);
```


Table Creation (SQL) cont'd

comm_PmntInfo

```
CREATE TABLE comm_PmntInfo (  
    paymentID NUMBER(9) PRIMARY KEY,  
    orderID NUMBER(9),  
    curType CHAR(3),  
    exchangeRate NUMBER DEFAULT 0 NOT  
    NULL,  
    paymentDate DATE NOT NULL,  
    totalPayment NUMBER NOT NULL,  
    CONSTRAINT comm_PmntInfo_orderID_fk  
    FOREIGN KEY (orderID) REFERENCES  
    comm_SalesOrders (orderID),  
    CONSTRAINT comm_PmntInfo_curType_ck  
    CHECK (curType IN ('USD', 'CAD', 'CNY', 'EUR',  
    'MXN', 'YEN', 'WON', 'AUD'))  
);
```

comm_Inventory

```
CREATE TABLE comm_Inventory (  
    siteID NUMBER(3),  
    prodID NUMBER (10),  
    quantity NUMBER,  
    PRIMARY KEY (siteID, prodID),  
    CONSTRAINT comm_Inventory_siteID_fk  
    FOREIGN KEY (siteID) REFERENCES  
    comm_Vendors (siteID),  
    CONSTRAINT  
    comm_Inventory_prodID_fk FOREIGN KEY  
    (prodID) REFERENCES comm_Products (prodID)  
);
```

Queries

```
SELECT  
comm_Inventory.quantity,comm_vendors.siteName  
FROM comm_vendors INNER JOIN comm_Inventory  
ON comm_Vendors.siteID = comm_Inventory.siteID;
```

	QUANTITY	SITENAME
1	250	beansemporium.com
2	250	beansemporium.com
3	300	coffeekulture.com
4	300	coffeekulture.com
5	350	kellyscoffee.com
6	350	kellyscoffee.com
7	275	clevercoffee.com
8	375	southbeanco.com

```
SELECT orderDate, sysDate,  
ABS(ROUND(orderDate-sysDate))  
FROM comm_salesOrders  
WHERE orderDate > '10-AUG-22';
```

	ORDERDATE	SYSDATE	ABS(ROUND(ORDERDATE-SYSDATE))
1	11-AUG-22	11-AUG-22	1
2	12-AUG-22	11-AUG-22	0

Queries cont'd

```
SELECT LOWER(firstName),  
lastname FROM  
comm_Customers WHERE  
LOWER(lastName) = 'doe';
```

	LOWER(FIRSTNAME)	LASTNAME
1	john	Doe

```
SELECT prodPrice,  
customerID, beanType  
FROM comm_beansCat  
NATURAL JOIN  
comm_shopCart;
```

	PRODPRICE	CUSTOMERID	BEANTYPE
2	12.5	103458	Excelsa
3	12.5	103458	Liberica
4	12.5	103458	Arabica
5	12.5	103458	Unknown
6	17.5	110928	Robusta
7	17.5	110928	Excelsa
8	17.5	110928	Liberica
9	17.5	110928	Arabica
10	17.5	110928	Unknown
11	20	125326	Robusta
12	20	125326	Excelsa
13	20	125326	Liberica
14	20	125326	Arabica
15	20	125326	Unknown
16	16	134972	Robusta
17	16	134972	Excelsa
18	16	134972	Liberica
19	16	134972	Arabica
20	16	134972	Unknown
21	22.25	144519	Robusta
22	22.25	144519	Excelsa
23	22.25	144519	Liberica
24	22.25	144519	Arabica
25	22.25	144519	Unknown

```
SELECT exchangeRate, orderid  
FROM comm_pmntInfo p  
LEFT OUTER JOIN  
comm_finOrders USING  
(orderid) ORDER BY discount;
```

	EXCHANGERATE	ORDERID
1	1.31	8
2	0	5
3	0	9
4	0	6
5	1.29	7

Queries cont'd

```
SELECT FIRSTNAME,  
LASTNAME, PHONE, CITY  
FROM comm_Customers  
WHERE CITY = 'Toronto'  
OR CITY = 'Brampton'  
ORDER BY firstName;
```

```
SELECT * FROM comm_ProdCntry  
WHERE CNTRYNAME LIKE '%U%';
```

	CNTRYID	CNTRYNAME
1	4	GUATEMALA
2	5	HONDURAS
3	8	PERU
4	9	UGANDA

	FIRSTNAME	LASTNAME	PHONE	CITY
1	John	Doe	6472175632	Toronto
2	Kate	Bishop	4163450873	Toronto
3	Samuel	Harris	4168983344	Brampton

```
SELECT * FROM comm_Products WHERE  
PRODPRICE BETWEEN 15 AND 20 AND  
ROASTLEVEL LIKE 'dark';
```

	PRODID	PRODNAME	PRODPRICE	CNTRYID	BEANID	ROASTLEVEL
1	3	Stormio	17.5	8	2	dark
2	7	Altesso	18.5	4	2	dark

Queries cont'd

```
SELECT * FROM comm_SalesOrders  
WHERE ORDERDATE BETWEEN  
'01-AUG-22' AND '15-AUG-22';
```

	ORDERID	CUSTOMERID	SHIPSTATUS	ORDERDATE	SHIPDATE
1	1	103458	processing	11-AUG-22	13-AUG-22
2	2	110928	sent	08-AUG-22	10-AUG-22
3	3	125326	pending	10-AUG-22	12-AUG-22
4	4	134972	pending	12-AUG-22	14-AUG-22
5	5	144519	delivered	06-AUG-22	08-AUG-22
6	6	134972	delivered	05-AUG-22	07-AUG-22
7	7	125326	delivered	02-AUG-22	04-AUG-22
8	8	110928	delivered	01-AUG-22	03-AUG-22

```
SELECT FIRSTNAME, LASTNAME  
FROM comm_Customers WHERE  
LASTNAME LIKE '_i%';
```

	FIRSTNAME	LASTNAME
1	Kate	Bishop
2	Lionel	Richie

References

A guide to coffee roast levels | TRUiC. (2022, March 3). howtostartanllc.com.
<https://howtostartanllc.com/coffee/coffee-roast-level-guide>

(n.d.). Balzac's Coffee Roasters. <https://shop.balzacs.com/>

List of countries by coffee production. (2012, June 20). Wikipedia, the free encyclopedia. Retrieved August 12, 2022, from
https://en.wikipedia.org/wiki/List_of_countries_by_coffee_production

MacDonnell, K. (2022, 25). *4 types of coffee beans: Profiles, pictures & more!* Coffee Affection. <https://coffeeaffection.com/different-types-coffee-beans/>

That's all folks!

