Software Developer Exercise

Old City Café is looking to expand its business by opening an online store where people can buy their products. They sell products such as Coffee, Mugs, Brewers etc. They want a user friendly site where customers can go and purchase these products online using their credit cards. They also want a back end system where they will see all the orders coming in so that they can be shipped. If products are not available they don’t want to show it in the site.

Exercise 1: Create a database structure for this. You can use Word to write down the Table names and the fields in the table. Identify the primary and foreign keys.

Create table ProductDetails(product\_id int NOT NULL PRIMARY KEY, products varchar(20), quantity int, price int)

Create table CustomerDetails(customer\_id int NOT NULL PRIMARY KEY, FirstName varchar(30), LastName(30),order\_id int, address\_id int, foreign key(order\_id) references orderDetails(order\_id), foreign key(address\_id) references Address(address\_id)

Create table Address(address\_id int PRIMARY KEY, customer\_id int, street int ,city varchar(20) , state varchar(20), country varchar(20), foreign key(customer\_id) references CustomerDetails(customer\_id))

Create table OrderDetails(order\_id int PRIMARY KEY, customer\_id int,product\_id int, foreign key(customer\_id) references CustomerDetails(customer\_id), ), foreign key(customer\_id) references ProductDetails(product\_id))

Exercise 2: Write a SQL query to display the products that are available to sell on the site

SELECT products from Product GROUPBY products having sum(quantity)>0

Exercise 3: Write a SQL query to show the top 10 bestselling products

create view productpurchase select products from Product join order p on (product\_id=p.product\_id)

SELECT top 10 products ,count(products) as counts from productpurchase groupby products orderby products desc

Exercise 4: From a customer’s perspective create a typical flow of screens that would be needed in order to make a purchase from the site. This can just be described in text using bullet points.

* Welcome Screen: Customer visits Homepage.
* Signup Screen: New customer should can signup.
* Login Screen: If the customer is an old one, then he can directly Login.
* Product Screen: Customer can see all the different products.
* Product Description Screen: When customer likes the product, he/she can see more details by clicking on that particular product.
* Cart Screen: If the customer wants to add certain products to buy later, they can save products in cart. She/he can see the total price of the product by adding to cart.
* Payment Screen: Customer should fill all the required data like Billing address, Card details.
* Conformation Screen: If the transaction is successful, then she/he will receive Success message and tracking details. If transaction fails error message is displayed.