



Database Design

Final Project

SUBMITTED BY-

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Cherry On Top

ABOUT OUR COMPANY

Here at Cherry on Top Bakery, Baking is our obsession, represent considerable authority in Canadian and Indian Bakery items. We utilize just the best and freshest ingredients to make baked goods that will fill your paunch and make you feel great inside. Come and visit. Your taste buds will much obliged!



The Products



WHAT WE MAKE

Baguettes
Loaves
Buns and Rolls
Bagels
Crisps
Toasts
Croutons
Granolas
Frozen



Customer Invoice

```
select * from Invoices where Invoice_ID=222
```

100 %



Results



Messages

| | Invoice_ID | Order_ID | Product_Name | Customer_ID | Date_Invoice | Grand_Total |
|---|------------|----------|--------------|-------------|--------------|-------------|
| 1 | 222 | 1 | Baguettes | 101 | 2019-11-16 | 60.30 |

Invoice ID: 222

Order ID: 1

Product Name: Baguettes

Customer ID: 101

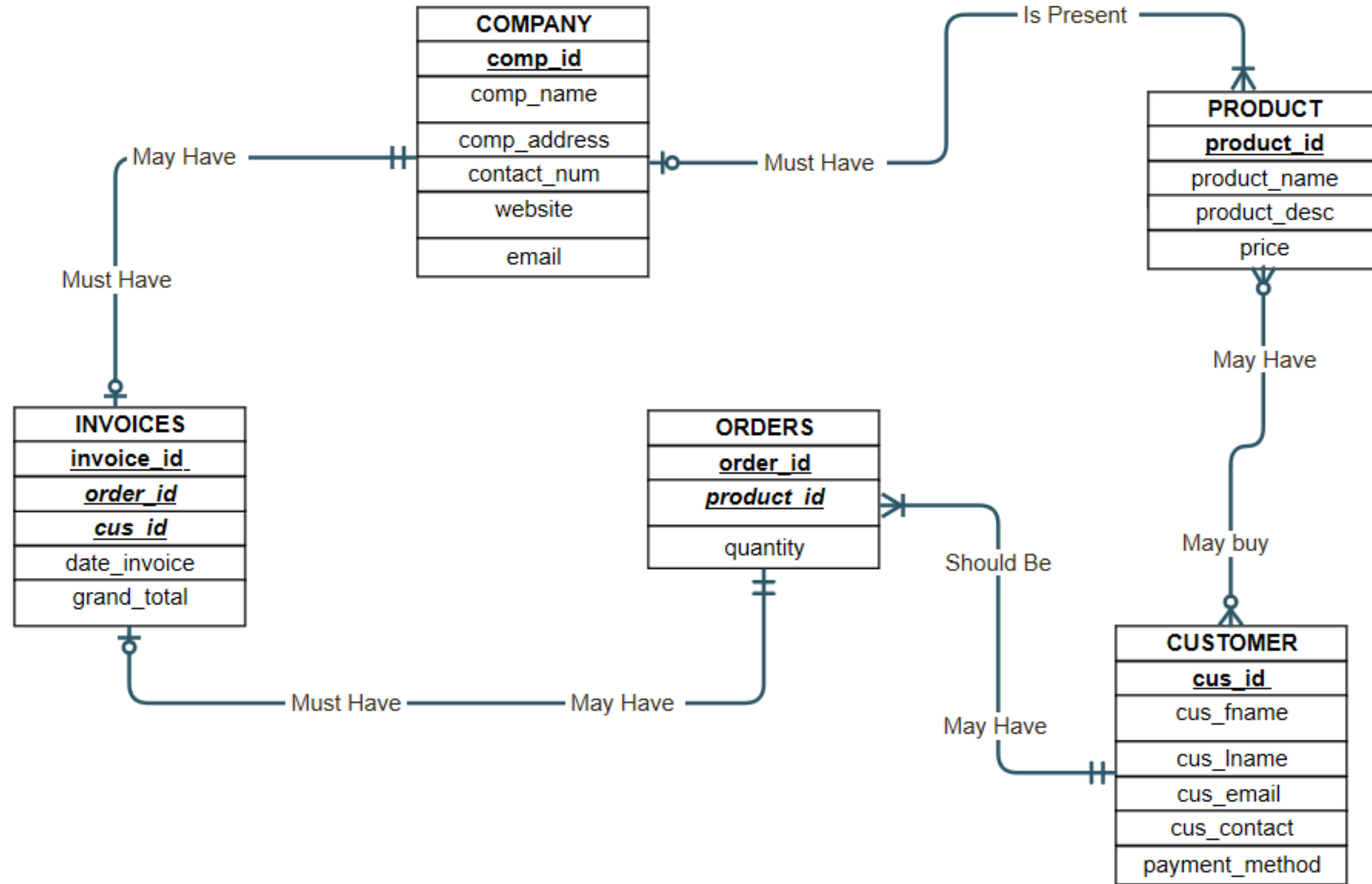
Date: 16-11-2019

Grand Total: \$60.30



ER DIAGRAM

ENTITY-RELATIONSHIP DIAGRAM



Entity and Attribute Identification

| <u>COMPANY</u> | | | |
|------------------|------------------|-------------------|--------------------|
| <u>Attribute</u> | <u>Data Type</u> | <u>Constraint</u> | <u>Details</u> |
| Comp_ID | Int | PK | Code of company |
| Comp_Name | Varchar(25) | Not Null | Name of company |
| Comp_Address | Varchar(30) | Not Null | Address of company |
| Contact_Details | Varchar(10) | Check Constraint | Details of company |
| Website | Varchar(20) | Check Constraint | Website of company |
| Email_Address | Varchar(30) | Check Constraint | Email of company |

| <u>PRODUCT</u> | | | |
|------------------|------------------|-------------------|------------------------|
| <u>Attribute</u> | <u>Data Type</u> | <u>Constraint</u> | <u>Details</u> |
| Product_ID | Int | Primary key | Product ID |
| Product_Name | Varchar(25) | Not Null | Name of Product |
| Description | Varchar(40) | Not Null | Description of Product |
| Price | Decimal(5,2) | Not Null | Price of Product |

| <u>CUSTOMER</u> | | | |
|------------------|------------------|-----------------------------|--------------------------------|
| <u>Attribute</u> | <u>Data Type</u> | <u>Constraint</u> | <u>Details</u> |
| Customer_ID | Int | Primary key | Customer ID |
| Cust_FName | Varchar(20) | Not Null | First Name of Customer |
| Cust_LName | Varchar(20) | | Last Name of Customer |
| Email_ID | Varchar(20) | Check and Unique Constraint | Email of Customer |
| Cust_Contact | Varchar(10) | Check and Unique Constraint | Contact details of Customer |
| Payment_Method | Varchar(6) | Check Constraint | Payment type Cash/Credit/Debit |

| <u>ORDER</u> | | | |
|------------------|------------------|-------------------|-------------------|
| <u>Attribute</u> | <u>Data Type</u> | <u>Constraint</u> | <u>Details</u> |
| Order_ID | Int | PK | Code of Order |
| Product_ID | Int | FK, Not Null | Code of Product |
| Quantity | Int | Not Null | Quantity of Order |

| <u>INVOICE</u> | | | |
|------------------|------------------|-------------------|------------------|
| <u>Attribute</u> | <u>Data Type</u> | <u>Constraint</u> | <u>Details</u> |
| Invoice_ID | Int | PK | Code of Invoice |
| Order_ID | Int | FK, Not Null | Code of Order |
| Cust_ID | Int | FK, Not Null | Code of Customer |
| Date | Date | Not Null | Date of Invoice |
| Product_ID | Int | Not Null | Code of Product |
| Grand_Total | Int | Not Null | Total Amount |

NORMALIZATION

| Comp_ID | Comp_Name | Comp_Address | Contact_Details | Website | Email_Address |
|---------|---------------|-------------------|-----------------|---------------------|-----------------------|
| 101 | Cherry On Top | 252,Lanark Circle | 4163598745 | www.cherryontop.com | cherryontop@gmail.com |

| Product_id | Product_Name | product_desc | price |
|------------|----------------|--|-------|
| 1001 | Baguettes | a long loaf of French bread | 20.95 |
| 1002 | Loaves | a long rounded bread | 12.75 |
| 1003 | Buns and Rolls | small, sweet, bread-based item | 14.55 |
| 1004 | Bagels | ring bread of yeast dough | 6.25 |
| 1005 | Crisps | thin slices of fried potato | 4.5 |
| 1006 | Toasts | Toasted bread slices with veg fillings | 5.25 |
| 1007 | Croutons | is a piece of rebaked bread | 7.15 |
| 1008 | Granolas | snacks consist of rolled oats | 6.75 |
| 1009 | Frozen | potato bites prepared on order | 5.25 |

| Customer_ID | Cust_FName | Cust_LName | Email_ID | Cust_Contact | Payment_Method |
|-------------|-------------|------------|-------------------------|--------------|----------------|
| 101 | Divyansh | Bharat | div.321@gmail.com | 6475461245 | Cash |
| 102 | Navdeep | Kaur | nav78495@gmail.com | 4165461245 | Credit |
| 103 | Harmanpreet | Kaur | harmanpreet@gmail.com | 7175461245 | Debit |
| 104 | Manpreet | Kaur | Manpreet.7123@gmail.com | 4155461245 | Credit |
| 105 | Parvesh | Sharma | parvesh123@gmail.com | 4555461245 | Debit |

| Order_ID | Product_id | Quantity |
|----------|------------|----------|
| 1 | 1002 | 5 |
| 2 | 1001 | 4 |
| 3 | 1003 | 6 |
| 4 | 1004 | 7 |
| 5 | 1005 | 8 |

| Invoice_ID | Order_ID | Product Name | Customer_ID | Date_Invoice | Grand_Total |
|------------|----------|----------------|-------------|--------------|-------------|
| 222 | 1 | Baguettes | 101 | 11/16/2019 | 60.3 |
| 223 | 2 | Loaves | 102 | 7/17/2018 | 45.2 |
| 224 | 3 | Buns and Rolls | 103 | 6/18/2016 | 34.6 |
| 225 | 4 | Bagels | 104 | 5/19/2015 | 56.8 |
| 226 | 5 | Crisps | 105 | 4/20/2014 | 43.9 |

Constraint Testing

1. Primary Key Constraint

```
insert into Customer values (106,'Kavya','Sharma','kavyasharma@gmail.com','2475461245','Debit')
```

100 % <

Messages

Msg 2627, Level 14, State 1, Line 1
Violation of PRIMARY KEY constraint 'PK__Customer__8CB286B945AA0AA4'. Cannot insert duplicate key in object 'dbo.Customer'. The duplicate key value is (106).
The statement has been terminated.

2. Check For Numeric Value

```
insert into Customer values (107,'AK','Sharma','aksharma@gmail.com','7001s002','Debit')
```

100 % <

Messages

Msg 547, Level 16, State 0, Line 1
The INSERT statement conflicted with the CHECK constraint "CK__Customer__Cust_C__1ED998B2". The conflict occurred in database "Database1", table "dbo.Customer", column 'Cust_Contact'.
The statement has been terminated.

3. Check for Value > 0

```
insert into Invoices values (-1,006,108,'2014-04-20',43.9)|
```

100 % <

Messages

Msg 547, Level 16, State 0, Line 1
The INSERT statement conflicted with the CHECK constraint "CK__Invoices__Invoic__403A8C7D". The conflict occurred in database "Database1", table "dbo.Invoices", column 'Invoice_ID'.
The statement has been terminated.

4. Unique Constraint

```
insert into Customer values (107,'P','Sharma','par@gmail.com','4165461245','Debit')|
```

100 % <

Messages

Msg 2627, Level 14, State 1, Line 1
Violation of UNIQUE KEY constraint 'UQ__Customer__6CA45DDD6691A5DA'. Cannot insert duplicate key in object 'dbo.Customer'. The duplicate key value is (4165461245). The statement has been terminated.

5. Foreign Key

```
insert into Orders1 values(007,1010,9);
```

100 % <

Messages

Msg 547, Level 16, State 0, Line 1
The INSERT statement conflicted with the FOREIGN KEY constraint "FK__Orders1__Product__3C69FB99". The conflict occurred in database "Database1", table "dbo.Product", column 'Product_id'. The statement has been terminated.

6. Check Constraint For Payment Method

```
insert into Customer values (107,'AK','Sharma','aksharma@gmail.com','70018002','Money')
```

100 % <

Messages

Msg 547, Level 16, State 0, Line 2
The INSERT statement conflicted with the CHECK constraint "CK__Customer__Paymen__1FCDBCEB". The conflict occurred in database "Database1", table "dbo.Customer", column 'Payment_Method'. The statement has been terminated.



THANK YOU!