Shopping Cart

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Subject Code: CSD 2204

Subject Name:Database Design & SQL

Topics we learnt:

* Code Rules for creating Database.
* DDL,DML, TCS Statements.
* Triggers, Views, Sub queries with JOINS.
* ER-Diagrams,Normalization.
* Store Procedures, Function, Cursors.

Difficulties I faced while creating database:

* Deciding Boundaries of Databases.
* Use of Function Match ().
* Creating ER Diagram.

Technology Used:

* E-Draw Max (ER Diagram).
* Xammp Server.
* Phpmyadmin.
* SQL Command Line.

Tables

**Table Name:**tbl\_address

**Primary Key:**address\_id

**Foreign key:**State\_id

**Description:**This table contain information about customer addresses.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Address\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| Address | VARCHAR (255) | NOT NULL |  |  |
| City | VARCHAR (50) | NOT NULL |  |  |
| State | INT (10) | NOT NULL | FOREIGN KEY |  |
| Phone\_number1 | BIGINT | NOT NULL |  |  |
| Phone\_number1 | BIGINT |  |  |  |

**Table Name:**tbl\_brand

**Primary Key:**brand\_id

**Foreign key:**user\_id

**Description:**This table contain information ofBrands.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Brand\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| Brand\_name | VARCHAR (100) | NOT NULL |  |  |
| Brand\_logo | VARCHAR (255) |  |  |  |
| User\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| Date\_added | DATE | NOT NULL |  |  |
|  |  |  |  |  |

**Table Name:**tbl\_category

**Primary Key:** category\_id

**Foreign Key:** user\_id

**Description:** This table contain information regarding Category of products.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Category\_ID | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| Category\_name | VARCHAR (255) | NOT NULL |  |  |
| Description | Text | NOT NULL |  |  |
| User\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| Date\_addes | Date | NOT NULL |  |  |

**Table Name:** tbl\_customer

**Primary Key:** customer\_id

**Foreign Key:** address\_id

**Description:** This table contain information about Customers.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Customer\_ID | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| First\_name | VARCHAR (50) | NOT NULL |  |  |
| Last\_name | VARCHAR (50) | NOT NULL |  |  |
| Email\_address | VARCHAR (255) | NOT NULL |  |  |
| Password | VARCHAR (255) | NOT NULL |  |  |
| Address\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| Date\_added | Date | NOT NULL |  |  |
| Newsletter | Boolean | NOT NULL | DEFALT (YES) |  |

**Table Name:** tbl\_order

**Primary Key:** Order\_id

**Foreign Key:**  Customer\_id, product\_id, Payment\_address\_id, Shipment\_address\_id , Order\_status ,

**Description:** This table contain information about All Orders.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Order\_id | INT (11) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| Customer\_id | INT (11) | NOT NULL |  |  |
| Product\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| Quantity | INT (3) | NOT NULL | DEFAULT 1 |  |
| Payment\_firstname | INT (32) | NOT NULL |  |  |
| Payment\_lastname | INT (32) | NOT NULL |  |  |
| Payment\_address | INT (10) | NOT NULL | FOREIGN KEY |  |
| Payment\_method | VARCHAR (32) | NOT NULL |  |  |
| Shipping\_firstname | VARCHAR (32) | NOT NULL |  |  |
| Shipping\_lastname | VARCHAR (32) | NOT NNULL |  |  |
| Shipping\_address | INT (10) | NOT NULL | FOREIGN KEY |  |
| Total | DECIMAL (15,4) | NOT NULL |  |  |
| Order\_status | INT (10) | NOT NULL | FOREIGN KEY |  |
| Date\_added | Date | NOT NULL |  |  |
| Date\_Modified | Date | NOT NULL |  |  |

**Table Name:** tbl\_state

**Primary Key:** state\_id

**Foreign Key:**

**Description:** This table contain information about all states of Country

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| State\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| State\_name | VARCHAR (60) | NOT NULL |  |  |

**Table Name:** tbl\_status

**Primary Key:** status\_id

**Foreign Key:**

**Description:** This table defines status of order.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Status\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| status | VARCHAR (60) | NOT NULL |  |  |

**Table Name:** tbl\_user

**Primary Key:** user\_id

**Foreign Key:**

**Description:** This table contain information about all authorized Users

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| User\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| User\_email\_id | Tinytext | NOT NULL |  |  |
| User\_password | Text | NOT NULL |  |  |
| Date\_added | Date | NOT NULL |  |  |

**Table Name:** tbl\_product

**Primary Key:** Product\_id

**Foreign Key:**  Brand\_id , Category\_id , User\_id

**Description:** This table contain information aboutProducts.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Product\_id | INT (10) | NOT NULL | PRIMARY KEY  (AUTO INCREMENT) |  |
| Product\_name | VARCHAR (100) | NOT NULL |  |  |
| Product\_description | TEXT | NOT NULL |  |  |
| Product\_model | VARCHAR (150) | NOT NULL |  |  |
| Price | DOUBLE | NOT NULL | CHECK (> 0) |  |
| Points | INT (5) | NOT NULL | CHECK (> 0) |  |
| Weight | Float | NOT NULL |  |  |
| Height | FLOAT | NOT NULL |  |  |
| Width | FLOAT | NOT NULL |  |  |
| Rating | INT (1) | NOT NULL | CHECK (1-5) |  |
| Date\_added | Date | NOT NULL |  |  |
| Brand\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| Category\_id | INT (10) | NOT NULL | FOREIGN KEY |  |
| User\_id | INT (10) | NOT NULL | FOREIGN KEY |  |

**Table Name:** tbl\_cart

**Primary Key:**  Cart\_id

**Foreign Key:** Customer\_id , Product\_id

**Description:** This table contain information aboutCustomer Cart.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| FIELD NAME | TYPE | CONSTRAIN | KEY | DESCRIPTION |
| Cart\_id | INT (10) | NOT NULL | PRIMARY KEY  (Auto Increment) |  |
| Customer\_id | INT (11) | NOT NULL | FOREIGN KEY |  |
| Product\_id | INT (11) | NOT NULL | FOREIGN KEY |  |
| Quantity | INT (11) | NOT NULL |  |  |
| Date\_added | Date | NOT NULL |  |  |

ER Diagram

Create Tables

1. Create table containing address of customers.

CREATE TABLE tbl\_address

(

address\_id INT (10) NOT NULL AUTO\_INCREMENT,

address VARCHAR (255) NOT NULL,

city VARCHAR (50) NOT NULL,

state INT (10) NOT NULL,

phone\_number1 BIGINT NOT NULL,

phone\_number2 BIGINT ,

PRIMARY KEY ( address\_id )

)

2. Create table containing brand information.

CREATE TABLE tbl\_brand

(

brand\_id INT (10) NOT NULL AUTO\_INCREMENT,

brand\_name VARCHAR (100) NOT NULL,

user\_id INT (10) NOT NULL,

date\_added date NOT NULL,

PRIMARY KEY ( brand\_id ),

UNIQUE KEY unique\_brand\_name ( brand\_name )

)

3. Create table containing information of customer’s cart.

CREATE TABLE tbl\_cart

(

cart\_idINT (11) NOT NULL AUTO\_INCREMENT,

customer\_id INT (11) DEFAULT NULL,

product\_id INT (11) DEFAULT NULL,

quantity INT (5) NOT NULL,

coupon\_idINT (11) DEFAULT NULL,

date\_added datetime NOT NULL ,

PRIMARY KEY ( cart\_id )

)

4. Create table containing product’s category.

CREATE TABLE tbl\_category

(

catergory\_id INT (10) NOT NULL AUTO\_INCREMENT,

category\_name VARCHAR (255) NOT NULL,

description text NOT NULL,

user\_id INT (10) NOT NULL,

date\_added date NOT NULL,

PRIMARY KEY ( catergory\_id )

)

5. Create table that have basic information of registered customers.

CREATE TABLE tbl\_customer

(

customer\_id INT (10) NOT NULL AUTO\_INCREMENT,

first\_name VARCHAR (50) NOT NULL,

last\_name VARCHAR (50) NOT NULL,

email\_address VARCHAR (100) NOT NULL,

password VARCHAR (255) NOT NULL,

address\_id INT (10) NOT NULL,

date\_added date NOT NULL,

newsletter BOOLEAN (1) NOT NULL ,

PRIMARY KEY ( customer\_id ),

UNIQUE KEY email\_address ( email\_address ),

UNIQUE KEY password ( password ),

UNIQUE KEY email\_address\_2 ( email\_address ),

FOREIGN KEY ( customer\_id ) REFERENCES tbl\_address ( address\_id ) ON DELETE CASCADE ON UPDATE NO ACTION

)

s6. Create table for all the orders placed by customer.

CREATE TABLE tbl\_order

(

order\_idINT (11) NOT NULL AUTO\_INCREMENT,

customer\_id INT (11) NOT NULL ,

product\_id int(11) NOT NULL,

Quantity int (3) NOT NULL DEFAULT 1

payment\_firstname VARCHAR (32) NOT NULL,

payment\_lastnameVARCHAR (32) NOT NULL,

payment\_addressINT (10) NOT NULL,

payment\_methodVARCHAR (32) NOT NULL,

shipping\_firstnameVARCHAR (32) NOT NULL,

shipping\_lastnameVARCHAR (32) NOT NULL,

shipping\_addressINT (10) NOT NULL,

total decimal(15,4) NOT NULL,

order\_statusINT (11) NOT NULL

date\_added date NOT NULL,

date\_modified date NOT NULL,

PRIMARY KEY ( order\_id ),

FOREIGN KEY (customer\_id) REFERENCES tbl\_customer(customer\_id),

FOREIGN KEY (product\_id) REFERENCES tbl\_product(product\_id),

FOREIGN KEY (payment\_address) REFERENCES tbl\_address(address\_id),

FOREIGN KEY (shipping\_address) REFERENCES tbl\_address(address\_id),

FOREIGN KEY (order\_status) REFERENCES tbl\_status(status\_id),

)

7. tbl\_product

CREATE TABLE tbl\_product

(

product\_id INT (10) NOT NULL AUTO\_INCREMENT,

product\_name VARCHAR (100) NOT NULL,

product\_description text NOT NULL,

product\_model VARCHAR (150) NOT NULL,

price double NOT NULL CHECK (price > 0),

points INT (5) NOT NULLCHECK(price > 0),

weight float NOT NULL,

height float NOT NULL,

widht float NOT NULL,

rating INT (1) NOT NULLCHECK(price > 0),

date\_added date NOT NULL,

brand\_id INT (10) NOT NULL ,

category\_id INT (10) NOT NULL ,

user\_id INT (10) NOT NULL ,

PRIMARY KEY ( product\_id ),

FOREIGN KEY (brand\_id) REFERENCES tbl\_brand(brand\_id),

FOREIGN KEY (category\_id) REFERENCES tbl\_category(category\_id),

FOREIGN KEY (user\_id) REFERENCES tbl\_user(user\_id)

)

8. Create table having all state’s information of country Canada.

CREATE TABLE tbl\_state

(

state\_id INT (3) NOT NULL AUTO\_INCREMENT,

state\_name VARCHAR (60) NOT NULL,

PRIMARY KEY ( state\_id )

)

9. Create table that have predefine product delivery status.

CREATE TABLE tbl\_status

(

status\_idINT (11) NOT NULL AUTO\_INCREMENT,

status VARCHAR (32) NOT NULL,

PRIMARY KEY ( status\_id )

);

10. Create table that have authorized user data.

CREATE TABLE tbl\_user

(

user\_id INT (10) NOT NULL AUTO\_INCREMENT,

user\_email\_id tinytext NOT NULL,

user\_password text NOT NULL,

date\_added date NOT NULL,

PRIMARY KEY ( user\_id )

)

Queries

1. Insert appropriate values into User table.

INSERT INTO tbl\_user ( user\_id , user\_email\_id , user\_password , date\_added )

VALUES

('1', 'abc.def@yahoo.com', 'abc', '2016-08-16'),

('2', 'abc1@gmail.com', 'abc1', '2017-01-12'),

('3', 'def@gmail.com', 'def', '2014-01-01');

1. Insert appropriate values into Address table.

INSERT INTO tbl\_address

(address\_id, address, city , state , phone\_number1 , phone\_number2 )

VALUES

('1', '5100, Wilson Hills', 'Mississauga', '1', '6785464354', NULL),

('2', '438, Erin Mills', 'Mississauga', '1', '6756478987', NULL);

('3', '271, Yorkland Blvd', 'North York', '1', '6478907655', '758749586');

1. Insert appropriate values into Customer table.

INSERT INTO tbl\_customer

(customer\_id, first\_name, last\_name, email\_address, password, address\_id, date\_added, points, newsletter)

VALUES

(1, 'Mick', 'Ross', 'abc.def@yahoo.com', 'abc', 1, '2016-08-16', 5, 0),

(2, 'Rachel', 'Zane', 'abc1@gmail.com', 'abc1', 2, '2017-09-12', 0, 1),

(3, 'Harvy', 'Spector', 'harvy.s@gmail.com', 'spect', 3, '2016-04-27', 0, 1);

1. Insert appropriate values into Brand table.

INSERT INTO tbl\_brand (brand\_id, brand\_name, user\_id, date\_added)

VALUES

('1', 'Apple','1', '2017-07-12'),

('2', 'HTC’, ‘3', '2014-05-19'),

('3', 'Samsung', '1', '2017-01-12'),

('4', 'Sony','1', '2017-02-19');

('5', 'Rogers', '2', '2017-02-19');

5. Insert appropriate values into Customer table.

INSERT INTO tbl\_category (catergory\_id, category\_name, description, user\_id , date\_added )

VALUES

('1', 'Cell Phone', 'Apple Phones', '1', '2016-12-14'),

('2', 'Htc Phones', 'HTC Phones', '3', '2015-03-15'),

('3', 'Apple Watch', 'Apple Watch', '2', '2016-03-15'),

('4', 'MacBook Pro', 'Mac Book Pro', '2', '2017-05-28');

1. Insert appropriate values into Product table.

INSERT INTO tbl\_product

(product\_id, product\_name, product\_description, product\_model , price , points , weight , height , widht , rating , date\_added , brand\_id , category\_id , user\_id )

VALUES

('1', 'Apple 6', 'Apple 6 phone', 'Model 6', '600.00', '5',

'156.89', '5.3', '3.4', '4', '2017-11-17', '1', '1', '1'),

('2', 'Apple 6 PLUS', 'Apple 6 PLUS phone', 'Model 6 PLUS', '750.00', '5',

'166.89', '5.8', '3.8', '5', '2016-07-17', '1', '1', '1'),

('3', 'HTC ', 'phone', 'HTC X', '450.00', '5',

'106.70', '5.1', '4.1', '3', '2017-03-17', '2', '2', '1'),

('4', 'Built-in GPS', 'With built-in GPS, Apple Watch Series 2 can record precise distance, speed and pace.', 'Built-in GPS', '529.99','5',

'34.2', '3.64', '4.25', '2', '2017-06-21', '1', '3', '2'),

('5', 'Apple Watch Series 2', 'Rose Gold Aluminum Case with Pink Sand Sport Band', 'Apple Watch Series 2', '399.99', '5',

'28.2', '3.84', '3.33', '3', '2017-09-1', '1', '3', '2'),

('6', '13-Inch MacBook Air', '13-Inch MacBook Air', 'MQD32LL/A', '1999.99', '5',

'780.78', '13.84', '23.67', '4', '2017-09-30', '1', '4', '1'),

('7', 'Rogers Pixel ', 'Phone by Google 32GB - Quite Black - 2 ', 'Pixel', '99.00', '5',

'138.17', '6.95', '5.6', '1', '2017-04-14', '5', '1', '1');

1. Insert appropriate values into Order table.

INSERT INTO tbl\_order

(order\_id , customer\_id , product\_id, quantity, payment\_firstname , payment\_lastname ,

payment\_address , payment\_method , shipping\_firstname , shipping\_lastname , shipping\_address ,total , order\_status , date\_added , date\_modified )

VALUES ('1', '1', '7','1', 'Mick', 'Ross',

'1', 'VISA', 'Ross', 'Mick', '1',

'99.99', '3', '2017-07-10', '2017-07-10');

1. Insert appropriate values into State table.

INSERT INTO tbl\_state (state\_id, state\_name)

VALUES

('1', 'Ontorio'),

('2', 'British Columbia'),

('3', 'Quebec'),

('4', 'Alberta'),

('5', 'Nova Scotia'),

('6', 'Manitoba'),

('7', 'New Brunswick'),

('8', 'Sasketchewan'),

('9', 'NewFounLand and Labrador');

1. Insert appropriate values into Status table.

INSERT INTO tbl\_status (status\_id, name) VALUES

(1, 'Pending'),

(2, 'Processing'),

(3, 'Shipped'),

(4, 'Canceled'),

(5, 'Complete'),

(6, 'Denied'),

(7, 'Canceled Reversal'),

(8,'Failed'),

(9,'Refunded'),

(10, 'Reversed'),

(11, 'Chargeback'),

(12, 'Voided'),

(13, 'Processed'),

(14, 'Expired');

1. Insert appropriate values into Cart table.

* List the customers who has given 2 phone Numbers;

select concat(first\_name, ' ',last\_name ) as 'Customer Name'

from tbl\_customer where address\_id = (

select address\_id from tbl\_address

where phone\_number1 is not null and phone\_number2 is not null );

* List the Brand That has no products.

select \* from tbl\_brand

where brand\_id NOT IN

(SELECT brand\_id FROM tbl\_product

group by brand\_id);

* List the Customer who have 'harvy' in their email address.

select \* from tbl\_customer

where MATCH(email\_address) AGAINST ('harvy');

or

select \* from tbl\_customer where email\_address like '%harvy%';

* Update state in address table where customer\_id is 3.

select tbl\_order.order\_status, tbl\_status.status From tbl\_order

JOIN tbl\_status

ON tbl\_order.order\_status = tbl\_status.status\_id

JOIN tbl\_customer

ON tbl\_order.customer\_id = tbl\_customer.customer\_id

where tbl\_customer.customer\_id =

(

select customer\_id from tbl\_customer where first\_name = 'Mick' and last\_name = 'Ross'

)

* Update Price of product 'Apple 6 PLUS' with new price 780.

Update tbl\_product set price=780

where product\_name = 'Apple 6 PLUS';

* Show Order\_staus where order is placed by customer last name is 'Ross' and first Name is ' Mick';

select tbl\_order.order\_status, tbl\_status.status From tbl\_order

JOIN tbl\_status

ON tbl\_order.order\_status = tbl\_status.status\_id

JOIN tbl\_customer

ON tbl\_order.customer\_id = tbl\_customer.customer\_id

where tbl\_customer.customer\_id =

(

select customer\_id from tbl\_customer where first\_name = 'Mick' and last\_name = 'Ross'

)

* List TheLetest Added Product name in thier category with its brand name.

select tbl\_product.product\_name, tbl\_category.category\_name, tbl\_brand.brand\_name,

timestampdiff(day, tbl\_product.date\_added, curdate()) as 'Added before Days'

from tbl\_product

JOIN tbl\_category

ON tbl\_product.category\_id = tbl\_category.catergory\_id

JOIN tbl\_brand

ON tbl\_brand.brand\_id = tbl\_product.brand\_id

group by tbl\_product.category\_id;

* List the minimum price product for each category of Apple Brand.

Select product\_name, product\_model, min(price), tbl\_brand.brand\_name, tbl\_category.category\_name

from tbl\_product

JOIN tbl\_category

ON tbl\_product.category\_id = tbl\_category.catergory\_id

JOIN tbl\_brand

ON tbl\_brand.brand\_id = tbl\_product.brand\_id

where tbl\_brand.brand\_name = 'Apple'

group by tbl\_product.category\_id;

* Create Procedure that gives you total purchase amount of provided customer ID up till today.

CREATE PROCEDURE total\_purchase\_of\_customer(VAR\_CUSTOMER\_ID INT)

BEGIN

SELECT SUM(total) from tbl\_order where customer\_id = VAR\_CUSTOMER\_ID ;

END

call total\_purchase\_of\_customer(1);

* Add Points Field to the customer table.

ALTER TABLE tbl\_product ADD COLUMN points1 int (10) NOT NULL AFTER date\_added;