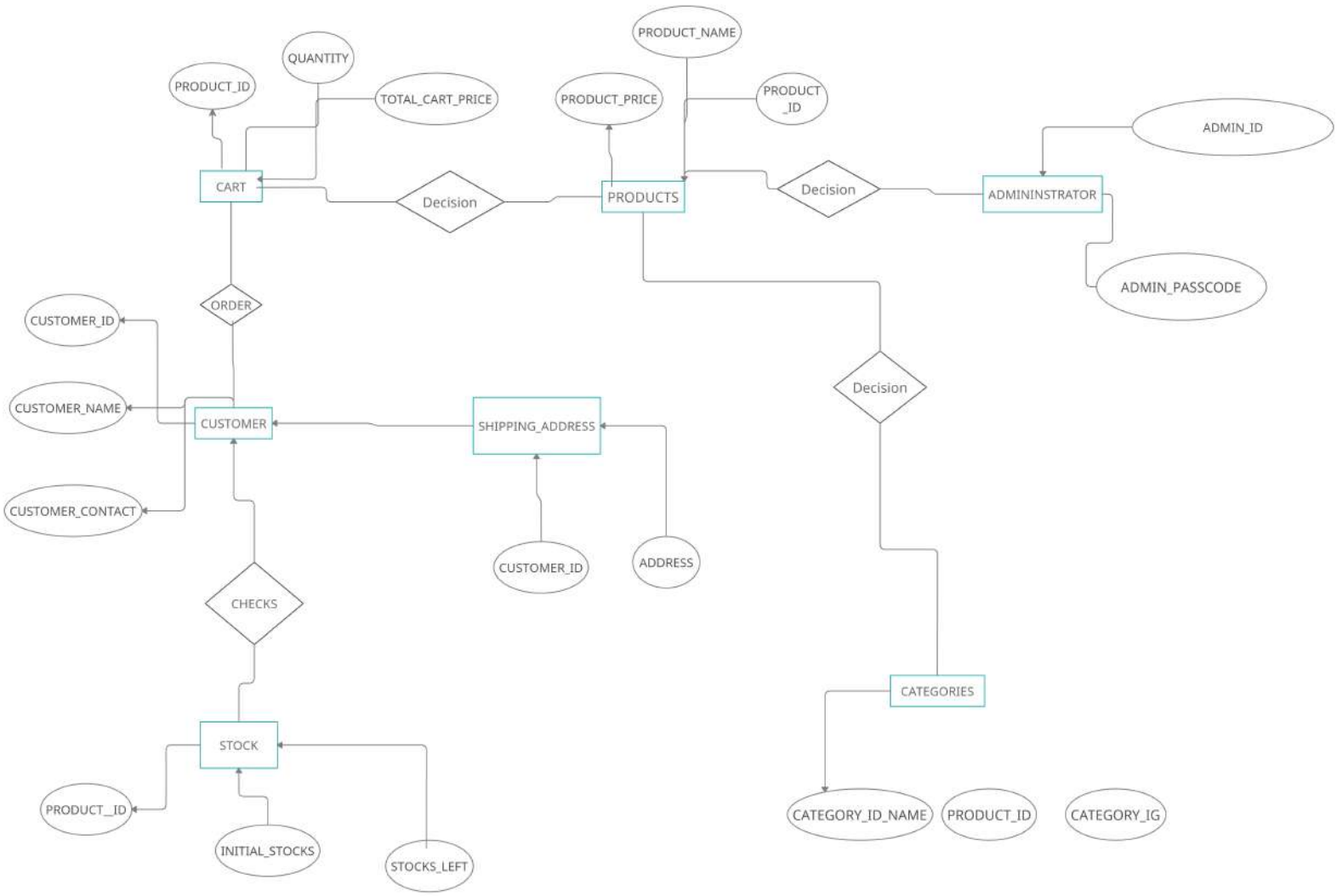
PRODUCT_NAME
QUANTITY
PRODUCT_ID
TOTAL_CART_PRICE
PRODUCT_PRICE
PRODUCT _ID
ADMIN_ID
CART
Decision
PRODUCTS
Decision
ADMININSTRATOR
ADMIN_PASSCODE
ORDER
CUSTOMER_ID
Decision
CUSTOMER_NAME
CUSTOMER
SHIPPING_ADDRESS
CUSTOMER_CONTACT
CUSTOMER_ID
ADDRESS
CHECKS
CATEGORIES
STOCK
PRODUCT__ID
CATEGORY_ID_NAME
PRODUCT_ID
CATEGORY_IG
INITIAL_STOCKS
STOCKS_LEFT

DATABASE ASSIGNMENT : 1

SUBMITTED BY : SHOBHIT BAGHEL

SUBMITTED TO : KARAN SHARMA

A. PARTICIPATING ENTITIES :

1. USER/CUSTOMER
2. SHIPPING ADDRESS
3. ADMINISTRATOR
4. PRODUCTS
5. CATEGORIES
6. CART
7. STOCKS

PLEASE NOTE : BOLD KEY IS THE PRIMARY KEY

I . CUSTOMER

CUSTOMER _id	CUSTOMER_NAME	CONTACT

II. SHIPPING ADDRESS

CUSTOMER_ID	ADDRESS

ADDRESS

MULTIVALUED ATTRIBUTE AND COMPOSITE

STREET

BLOCK

LANDMARK PIN , etc.

III. PRODUCTS

PRODUCT_ID	PRODUCT_NAME	PRODUCT_PRICE

III. CATEGORIES

CATEGORY_ID_NAME	CATEGORY_ID

CATEGORY_ID	PRODUCT_ID

V. ADMINISTRATOR.

ADMIN_NAME	**PASSCODE**

VI. CART

PRODUCT_ID	QUANTITY_ORDERED	PRICE

VII. STOCK

PRODUCT_ID	QUANTITY_INTIALLY	QUANTITY_LEFT

Q2. REALATIONS AMONG ENTITIES

ENTITY 1	ENTITY 2	RELATION
PRODUCT	CUSTOMER	(N , 1)
PRODUCT	ADMIN	(1 , N)
PRODUCT	STOCKS	(N , N)
PRODUCT	CATEGORIES	(N , N)
CUSTOMER	STOCK	(1 , 1)
CUSTOMER	ADMIN	(1, 1)
CUSTOMER	EDIBLE / NON EDIBLE	(1 , N)

NORMAILISATION :

1. TECHNIQUE USED TO ORGANISE DATA IN THE DATABASE .

2. TARGET TO REMOVE OR ELIMINATE THE REDUNDANCY IN THE DATA OR TO AVOID THE SAME DATA AGAIN AND AGAIN .

TECHNIQUES :

1. 1^{ST} NORMAL FORM
2. 2^{ND} NORMAL FORM
3. 3^{RD} NORMAL FORM
4. BCNF

1NF :

Contains only atomic values

There are no repeating groups

TABLE_PRODUCT

Product ID	Color	Price
1	red, green	15.99
2	yellow	23.99
3	green	17.50
4	yellow, blue	9.99
5	red	29.99

THIS IS NOT IN 1 NF BECAUSE COLOR CAN CONTAIN MULTIPLE VALUES

TABLE_PRODUCT_PRICE

Product ID	Price
1	15.99
2	23.99
3	17.50
4	9.99
5	29.99

TABLE_PRODUCT_COLOR

Product ID	Color
1	red
1	green
2	yellow
3	green
4	yellow
4	blue
5	red

2ND NORMAL FORM

It is in first normal form

All non-key attributes are fully functional dependent on the primary key

TABLE_PURCHASE_DETAIL

Customer ID	Store ID	Purchase Location
1	1	Los Angeles
1	3	San Francisco
2	1	Los Angeles
3	2	New York
4	3	San Francisco

Not in 2NF because of Composite primary key [Customer ID, Store ID]

TABLE_PURCHASE

Customer ID	Store ID
1	1
1	3
2	1
3	2
4	3

TABLE_STORE

Store ID	Purchase Location
1	Los Angeles
2	New York
3	San Francisco

This table now in 2NF

3NF

It is in second normal form

There is no transitive functional dependency

TABLE_BOOK_DETAIL

Book ID	Genre ID	Genre Type	Price
1	1	Gardening	25.99
2	2	Sports	14.99
3	1	Gardening	10.00
4	3	Travel	12.99
5	2	Sports	17.99

[Book ID] determines [Genre ID], and [Genre ID] determines [Genre Type]. Therefore, [Book ID] determines [Genre Type] via [Genre ID] and we have transitive functional dependency,

TABLE_BOOK

Book ID	Genre ID	Price
1	1	25.99
2	2	14.99
3	1	10.00
4	3	12.99
5	2	17.99

TABLE_GENRE

Genre ID	Genre Type
1	Gardening
2	Sports
3	Travel

Now all non-key attributes are fully functional dependent only on the primary key. In [TABLE_BOOK], both [Genre ID] and [Price] are only dependent on [Book ID]. In [TABLE_GENRE], [Genre Type] is only dependent on [Genre ID].