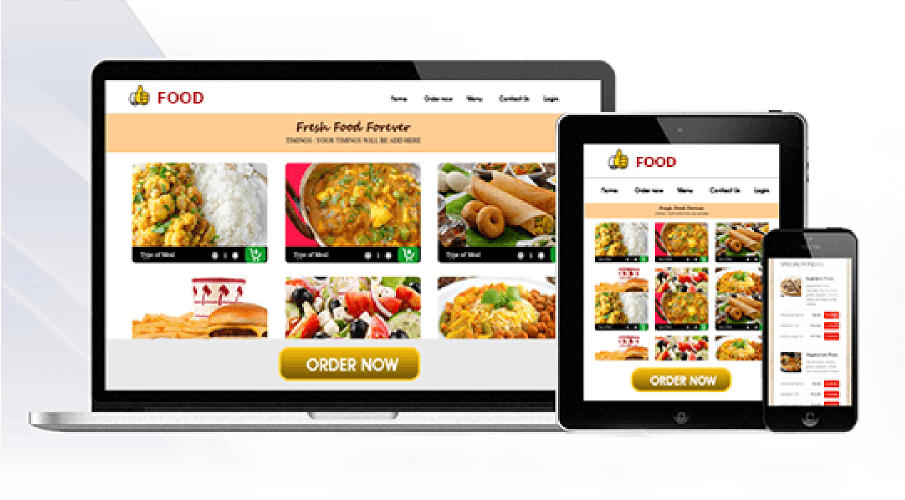
PES UNIVERSITY
ELECTRONIC CITY CAMPUS

ASSIGNMENT 1
ON RESTAURANT RESERVATION SYSTEM
AS PART OF THE
UE19CS301 - DATABASE MANAGEMENT SYSTEM



UNDER GUIDANCE OF: PROF. NIVEDITA KASTURI

TEAM MEMBERS

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PROBLEM STATEMENT:-

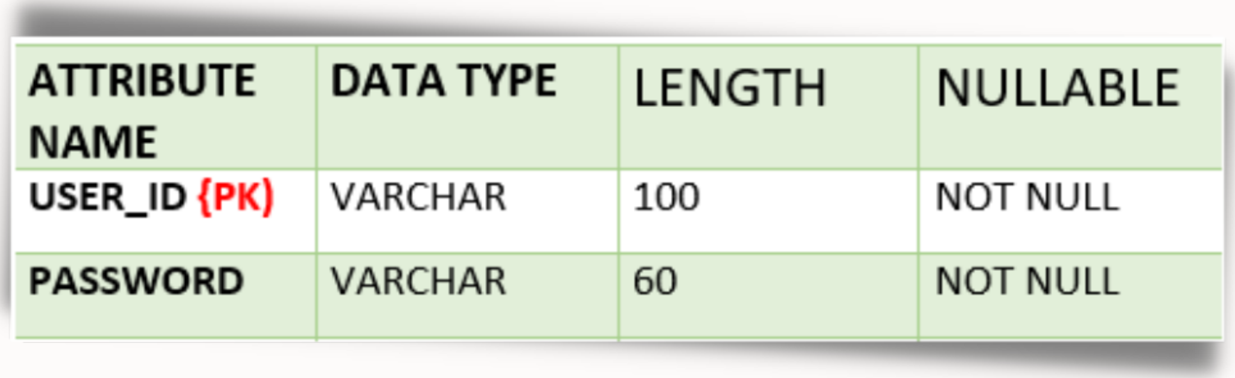
Our Restaurant reservation system is a full-stack Web Application Project. This project demonstrates our learning and progress in deploying a complex database system as part of a web application. The database consists of multiple complex queries, triggers, and a well-designed schema that demonstrates our learning outcomes in the module.

It is a restaurant reservation application that allows diners to book reservations at restaurants, similar to Chope. Restaurants can advertise their availability (e.g., cuisine type, branch locations, opening hours, menu prices, etc) and diners can search for restaurants to book reservations by providing various information (e.g., date and time, cuisine type, number of people, preferred locations, etc) and rate restaurants based on their dining experience. Each reservation booking is confirmed based on various criteria (e.g., booking time, availability, number of diners, etc). Diners could cancel and make edits to their reservations, as well as rate their dining experiences should they wish to do so. Hungrily provides for various incentives through the use of points given after reviews to attract and maintain customer loyalty.

Besides this, It also allows franchise owners to view information on their restaurants and their corresponding reservations. Franchise Owners are also able to see the most loyal customer for each of their restaurants, should there be one.

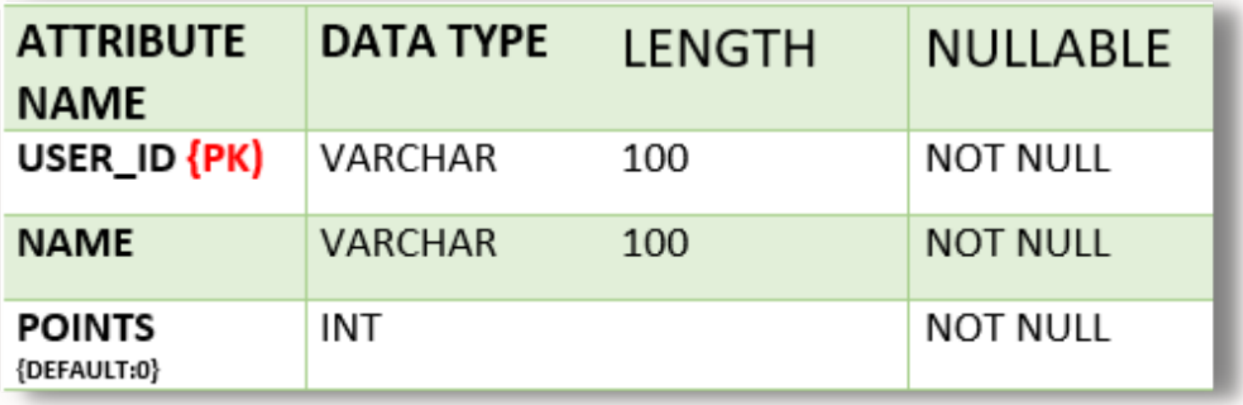
Constraints

1. ACCOUNT



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
USER_ID {PK}	VARCHAR	100	NOT NULL
PASSWORD	VARCHAR	60	NOT NULL

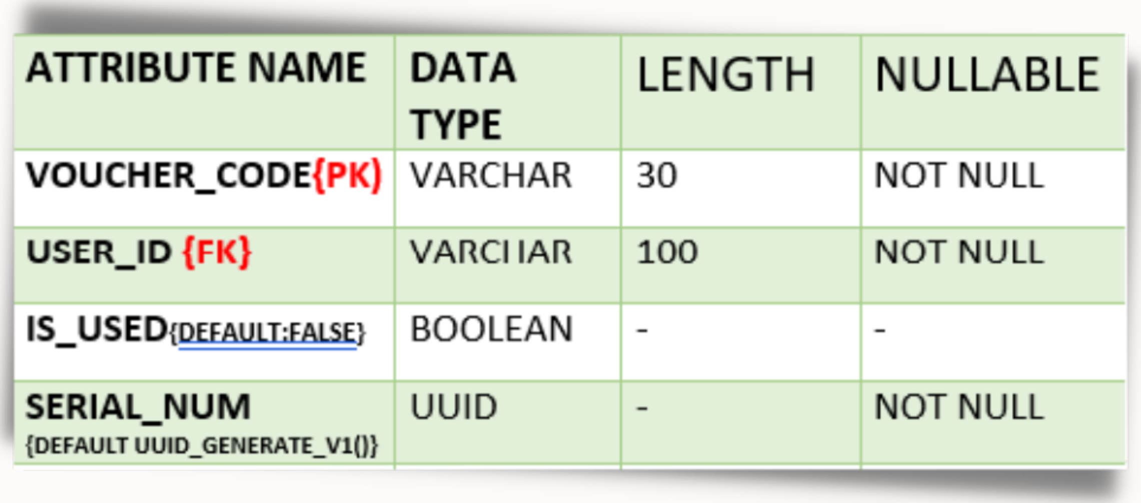
2.CUSTOMER



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
USER_ID {PK}	VARCHAR	100	NOT NULL
NAME	VARCHAR	100	NOT NULL
POINTS {DEFAULT:0}	INT		NOT NULL

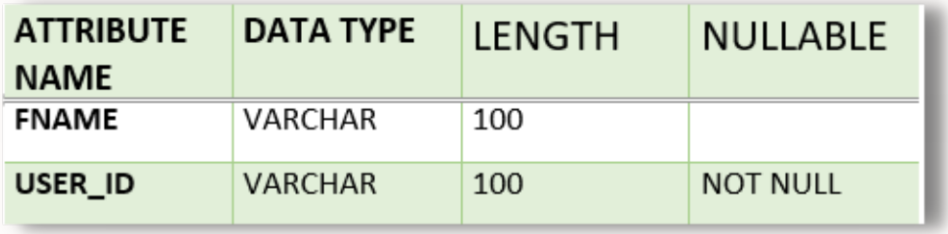
Check Constraints:
"customer_points_check" CHECK (points >= 0)

3.CUSTOMER VOUCHER



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
VOUCHER_CODE{PK}	VARCHAR	30	NOT NULL
USER_ID {FK}	VARCHAR	100	NOT NULL
IS_USED{DEFAULT:FALSE}	BOOLEAN	-	-
SERIAL_NUM {DEFAULT UUID_GENERATE_V1()}	UUID	-	NOT NULL

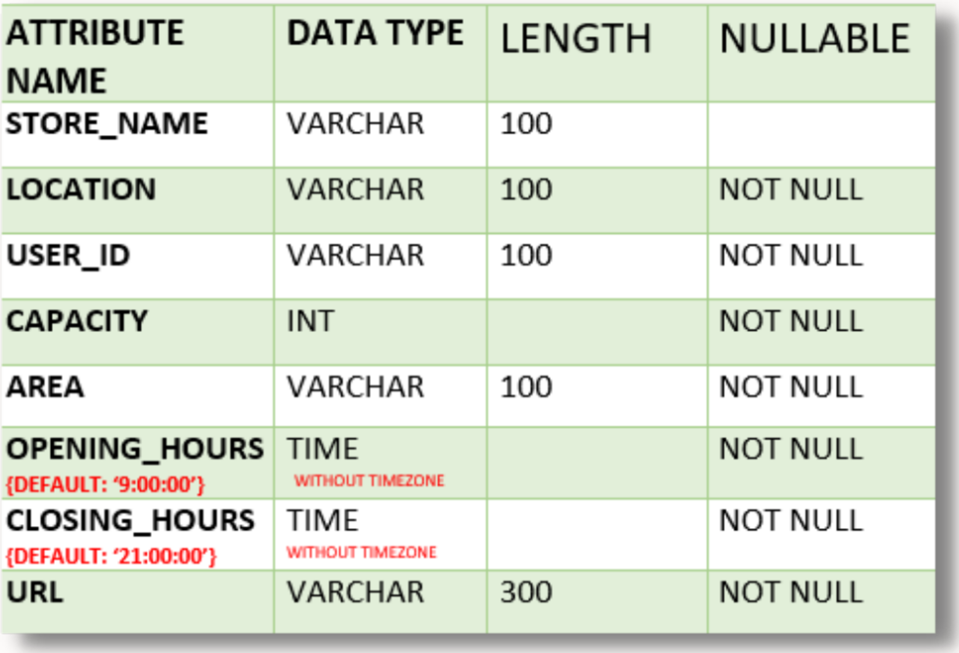
4.FRANCHISE OWNER



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
FNAME	VARCHAR	100	
USER_ID	VARCHAR	100	NOT NULL

PRIMARY KEY-(USER_ID)
FOREIGN KEY-(USER_ID) REFERENCES ACCOUNT(USER_ID)

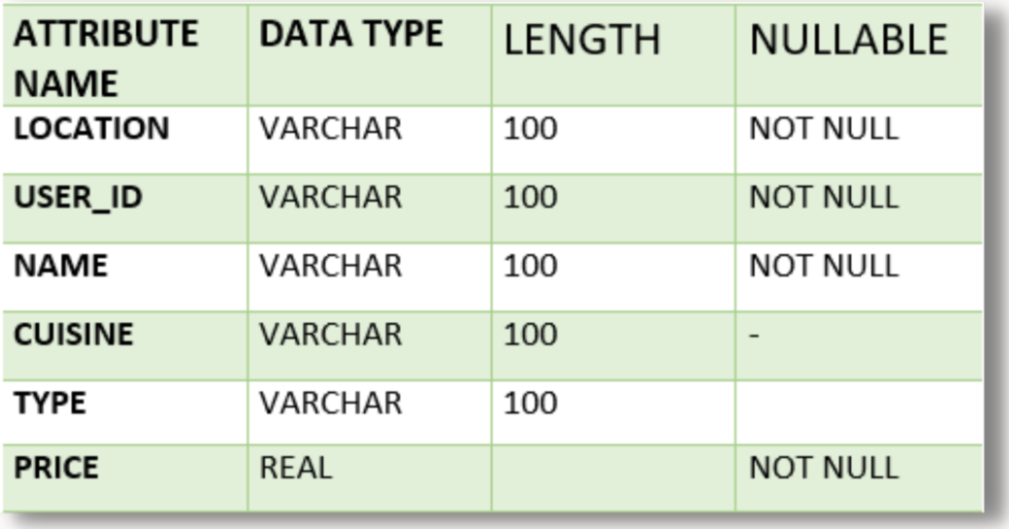
5.RESTAURANT



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
STORE_NAME	VARCHAR	100	
LOCATION	VARCHAR	100	NOT NULL
USER_ID	VARCHAR	100	NOT NULL
CAPACITY	INT		NOT NULL
AREA	VARCHAR	100	NOT NULL
OPENING_HOURS {DEFAULT: ‘9:00:00’}	TIME WITHOUT TIMEZONE		NOT NULL
CLOSING_HOURS {DEFAULT: ‘21:00:00’}	TIME WITHOUT TIMEZONE		NOT NULL
URL	VARCHAR	300	NOT NULL

PRIMARY KEY-(LOCATION,USER_ID)
FOREIGN KEY-(USER_ID) REFERENCES FRANCHISE_OWNER USER_ID

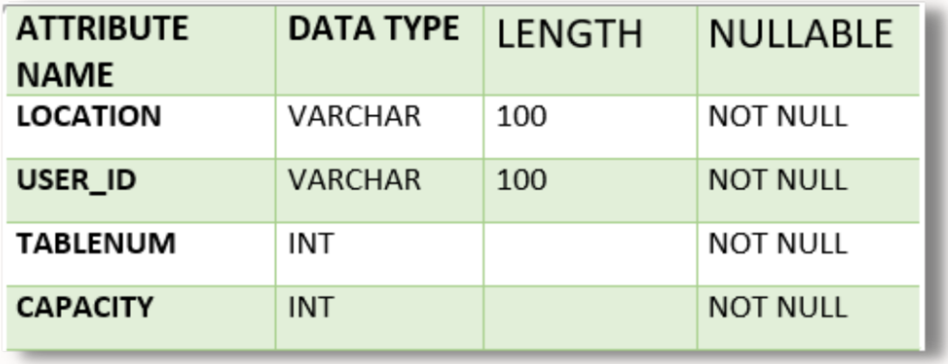
6. FOOD



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
LOCATION	VARCHAR	100	NOT NULL
USER_ID	VARCHAR	100	NOT NULL
NAME	VARCHAR	100	NOT NULL
CUISINE	VARCHAR	100	-
TYPE	VARCHAR	100	
PRICE	REAL		NOT NULL

PRIMARY KEY-(LOCATION, USER_ID, NAME)
FOREIGN KEY-(LOCATION,USER_ID) REFERENCES RESTAURANT(LOCATION,USER_ID)
Check Constraints:
"food_price_check" CHECK (price >= 0::double precision)

7.TABLES

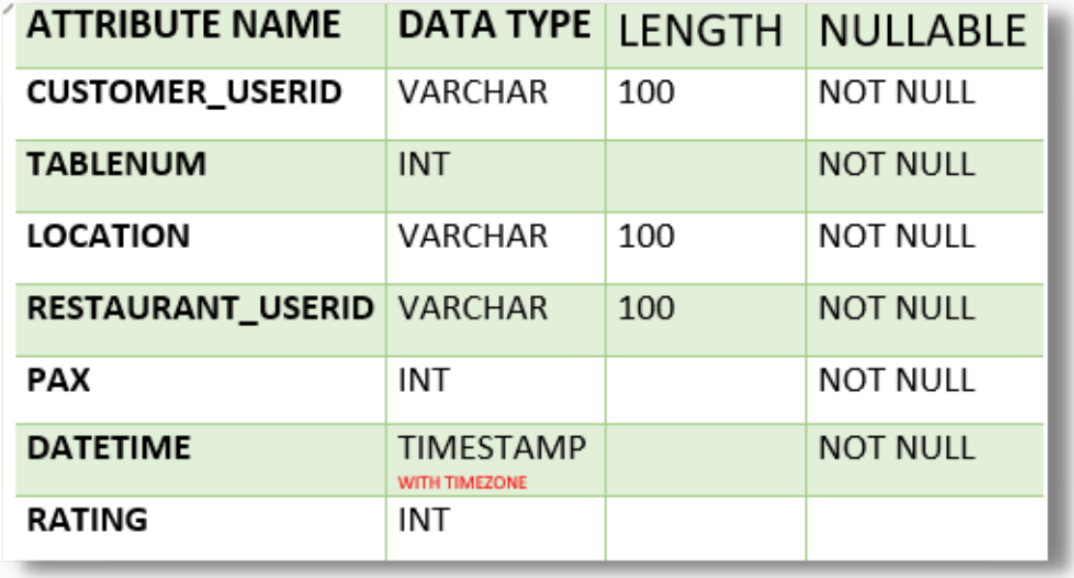


ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
LOCATION	VARCHAR	100	NOT NULL
USER_ID	VARCHAR	100	NOT NULL
TABLENUM	INT		NOT NULL
CAPACITY	INT		NOT NULL

PRIMARY KEY-(LOCATION,USER_ID,TABLENUM)

FOREIGN KEY-(LOCATION,USER_ID) REFERENCES RESTAURANT(LOCATION,USER_ID)

8. RESERVATION



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
CUSTOMER_USERID	VARCHAR	100	NOT NULL
TABLENUM	INT		NOT NULL
LOCATION	VARCHAR	100	NOT NULL
RESTAURANT_USERID	VARCHAR	100	NOT NULL
PAX	INT		NOT NULL
DATETIME	TIMESTAMP WITH TIMEZONE		NOT NULL
RATING	INT		

PRIMARY KEY-(CUSTOMER_USERID,RESTAURANT_USERID,TABLENUM,LOCATION,DATETIME)

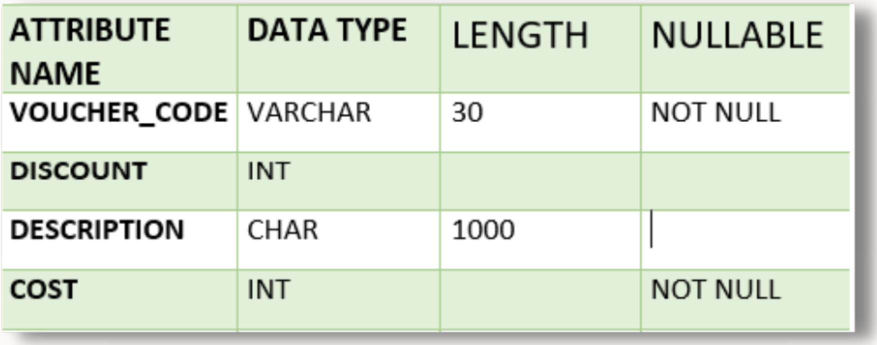
FOREIGN KEY-

- (CUSTOMER_USERID) REFERENCES CUSTOMER(USER_ID)
- (TABLENUM,LOCATION,RESTAURANT_USERID) REFERENCES TABLES(TABLENUM,LOCATION,USERID

Check Constraints:

"reservation_rating_check" CHECK (rating >= 0 AND rating <= 5 OR rating IS NULL)

9.POSSIBLE_VOUCHER



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
VOUCHER_CODE	VARCHAR	30	NOT NULL
DISCOUNT	INT		
DESCRIPTION	CHAR	1000	
COST	INT		NOT NULL

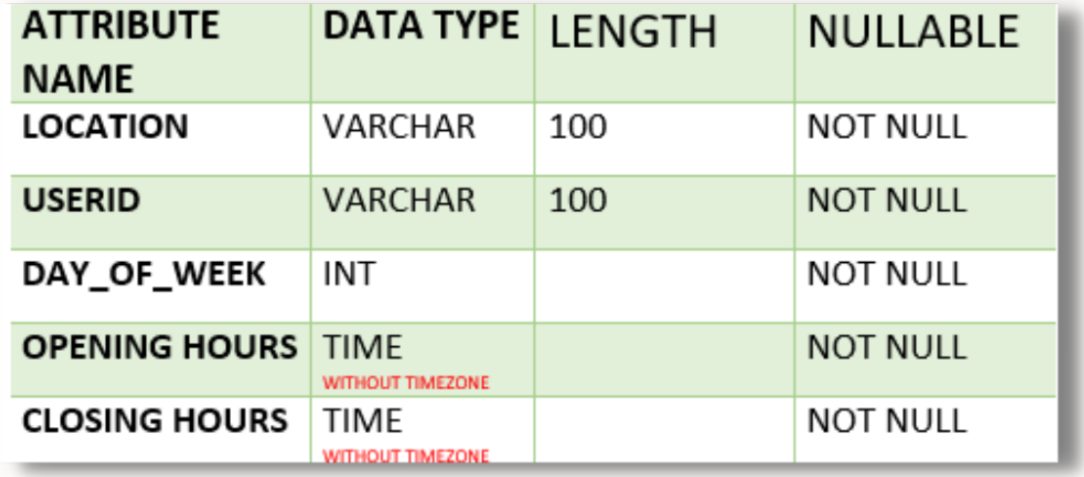
PRIMARY KEY-(VOUCHER_CODE)

FOREIGN KEY(VOUCHER_CODE) REFERENCES POSSIBLE_VOUCHER(VOUCHER_CODE)

Check constraints:

"possible_voucher_discount_check" CHECK (discount > 0 AND discount <= 100)

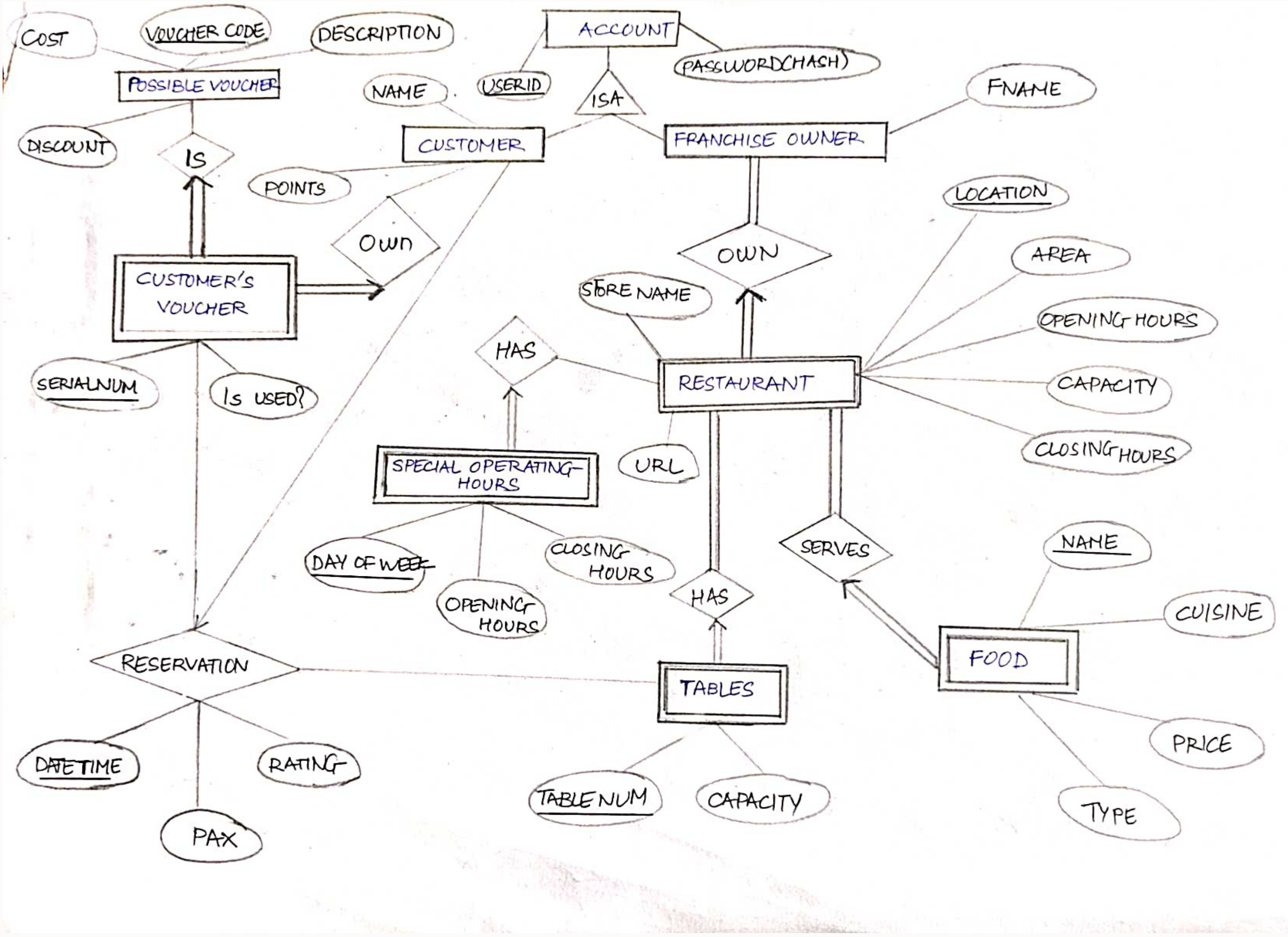
10. SPECIAL_OPERATING_HOURS



ATTRIBUTE NAME	DATA TYPE	LENGTH	NULLABLE
LOCATION	VARCHAR	100	NOT NULL
USERID	VARCHAR	100	NOT NULL
DAY_OF_WEEK	INT		NOT NULL
OPENING HOURS	TIME WITHOUT TIMEZONE		NOT NULL
CLOSING HOURS	TIME WITHOUT TIMEZONE		NOT NULL

"special_operating_hrs_pkey" PRIMARY KEY, btree (day_of_week, location, userid)
Check constraints:
"special_operating_hrs_check" CHECK (opening_hours < closing_hours)
"special_operating_hrs_day_of_week_check" CHECK (day_of_week >= 0 AND day_of_week <= 6)
Foreign-key constraints:
"special_operating_hrs_location_fkey" FOREIGN KEY (location, userid) REFERENCES restaurant(location, userid) ON DELETE CASCADE

ER DIAGRAM

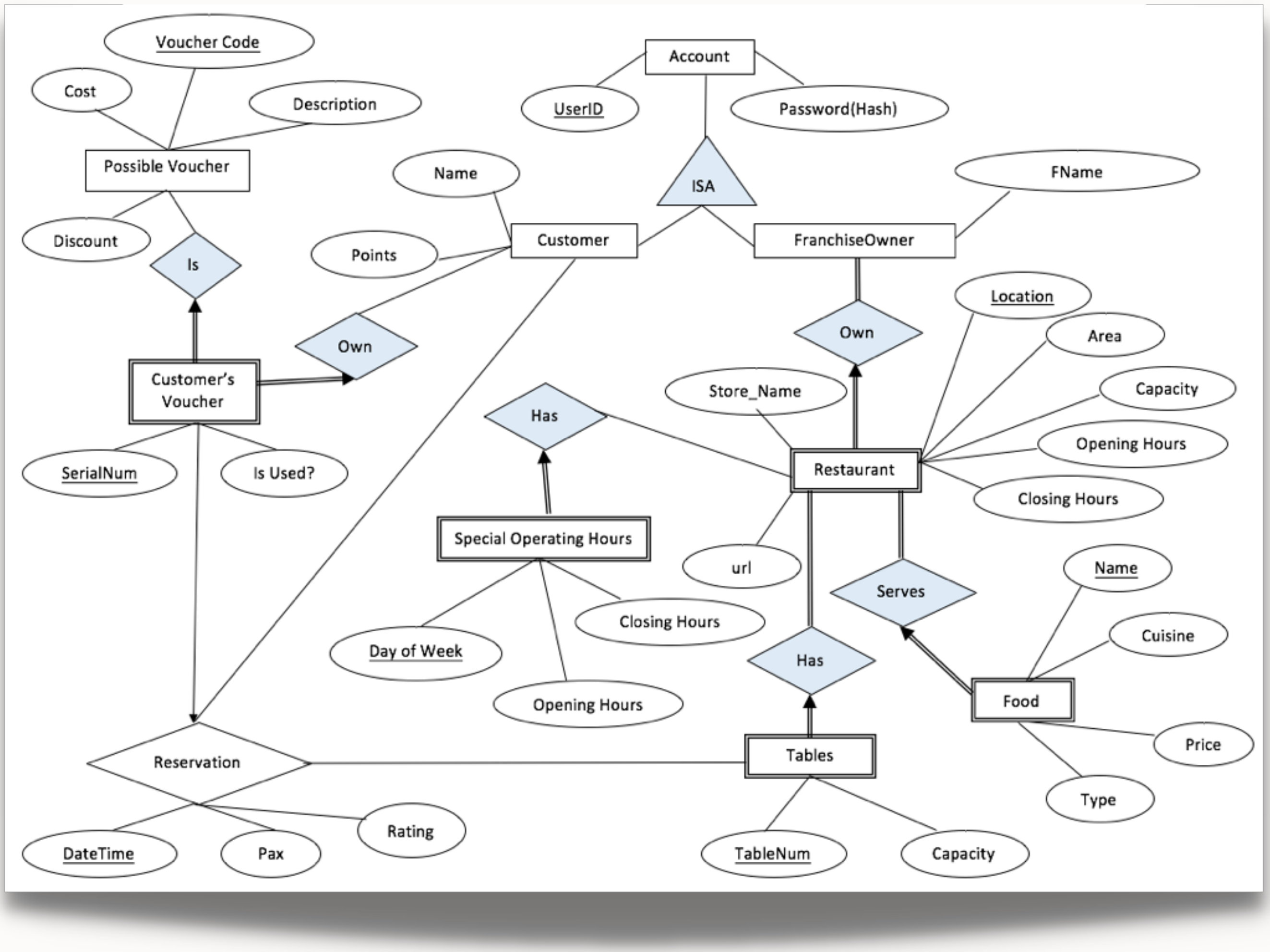

COST
VOUCHER CODE
DESCRIPTION
ACCOUNT
USERID
PASSWORD(HASH)
POSSIBLE VOUCHER
NAME
ISA
FNAME
DISCOUNT
IS
CUSTOMER
FRANCHISE OWNER
POINTS
LOCATION
OWN
OWN
AREA
CUSTOMER'S VOUCHER
STORE NAME
OPENING HOURS
HAS
SERIALNUM
IS USED?
RESTAURANT
CAPACITY
CLOSING HOURS
URL
SPECIAL OPERATING HOURS
NAME
SERVES
DAY OF WEEK
CLOSING HOURS
OPENING HOURS
HAS
CUISINE
FOOD
RESERVATION
TABLES
PRICE
DATETIME
RATING
TABLE NUM
CAPACITY
TYPE
PAX

ER TOOLS USED :

LucidChart :

Lucidchart is a web-based proprietary platform that allows users to collaborate on drawing, revising and sharing charts and diagrams. It is produced by Lucid Software Inc., based in Utah, United States.

Lucidchart's ERD tool makes it easy to visualize your database structure and build entity-relationship diagrams online. Save hours of manual work with our ERD import feature.



REFERENCE LINKS :

1) https://github.com

https://www.lucidchart.com

https://en.wikipedia.org/wiki/Lucidchart

https://www.canva.com