

CVS Drive-Thru COVID Vaccine System

ISTM 6202 Team Project Spring 2021

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ISTM 6202: Relational Databases

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Executive Summary

Our project revolves around the current need for rapid vaccinations around the world. CVS health system has been a leader in its industry and is rapidly growing to provide better services for consumers. CVS Health system is a store that started by selling health and beauty products and began to add other services. One of the major services CVS added was the minute clinic. The minute clinic is a small, designated area inside CVS stores that attends to consumers looking for medical help for non-life-threatening conditions, the clinic also provides vaccinations for insured and uninsured consumers. We have decided to add another service to CVS's list of services and give them a competitive edge over Walgreens or rite aid. In this report we have decided to work towards providing a solution to the ongoing problem of providing vaccinations to as many people as possible and as safely as possible. We will be adding a new system to the ongoing system by adding drive-thru vaccinations. The new system will have the capabilities of being used on the app to book an appointment for the vaccine and there will be a system in place which will let the health team member know that there is a new order and that they must follow protocol to provide the consumer a drive-thru vaccine. In this report, we go more in-depth on how this system will help CVS build a better relationship with its consumers and how they will achieve this goal.

Section I: Business Problem

1.1 Description of Organization and Its Problem(s)

In 1963 the first CVS store was opened in Lowell, Massachusetts by brothers Stanley and Sidney Goldstein and partner Ralph Hoagland. The store began with selling health and beauty products. Over the next couple of years, CVS grew by opening more retail stores and adding pharmacy departments to each store. By 1999 CVS launched CVS.com which become the first fully integrated online pharmacy in the United States.

MinuteClinic became a part of CVS in the 2000s when Rick Krieger and partners Douglas Smith, M.D., Steve Pontius, and Kevin Smith, RN, FNP founded QuickMedx, a retail health care center that becomes into MinuteClinic. CVS Health provides many services such as retail pharmacies (CVS Pharmacy), Walk-in clinics (MinuteClinic), Local care teams(Aetna Community Care), Cost Management(PlayFlex), Medical Specialty Rx(Novologix), Care Management(Accordant), and Specialty Infusion(Coram). CVS Health's business strategy is to put consumers at the center of its approach by helping them achieve their best health by strengthening health care locally and making it simpler to use and understand.

CVS Health competes with Walgreens, Rite Aid, Walmart, Safeway, PharMerica, and Costco. These pharmacies operate very similarly to CVS and offer similar discounts, but Walgreens is in more direct competition with CVS Health as most stores have similar locations and provide most of the same services. One of the services these companies provide is vaccinations for insured and uninsured consumers. Since both the companies operate in an alike manner, our suggestion is to achieve a better competitive advantage for CVS health by adding drive-thru vaccinations to the list of services provided.

As of December 2020, the world has been dealing with the coronavirus pandemic. Many companies have been trying to figure out how to provide services while maintaining social distancing standards. CVS Health recently added drive-thru and no contact covid-19 testing for consumers, which has increased the number of people getting tested and slowed down the spread of the virus. Similarly, we believe that CVS Health has the capability to provide for the consumer's current need for vaccinations but without much physical contact or wait time.

In early February 2021, CVS and Walgreens announced that they will be administering the COVID-19 vaccine by appointment. These appointments will be based on eligibility guidelines provided by the local and federal government. We believe that CVS can take this opportunity and earn a competitive edge over Walgreens by introducing drive-thru vaccinations, where the consumer will be able to book an appointment through their existing process but will be provided an option to get the vaccine administered in their car. This will reduce the amount of time the consumer would have to wait inside a typical clinic as well as the hassle of bringing paper

prescription to the appointment. The authorization of the vaccine will be determined before the appointment is confirmed.

As millions of people need to be vaccinated each year, this new addition will help the company strengthen its current business strategy of helping consumer achieve their best health. Looking at the current situation the world will not be going back to normal anytime soon therefore we believe this system could be used for decades to come. CVS Health will benefit by gaining new customers as they expand the types of services they provide, and the consumers will benefit by having more assessable options for vaccinations.

The need for this new system is to help consumers feel secure while getting vaccinated. Many consumers are hesitant to get vaccinated due to overcrowding in clinics. This alternative will help consumers get vaccinated faster and safer. The need for this system in this time of pandemic is urgent and CVS's current operations are capable of adding and fulfilling this requirement.

1.2 As-IS Business Process Map

The current business process map shows how CVS's online reservation system functions. There are three swim lanes which are consumers, the online department, and the health team members. First, the consumer can select whether they have an account or not. They can choose a store by inputting their zip code and select desired store. After that the consumer has three choices: Request Rx Delivery, shop at CVS, or Visit MinuteClinic. If the consumer selects Request Rx Delivery, they then upload their prescription, update their information, and select pick-up options. After they go through this process, they receive an email confirmation for their order. If the consumer selects Visit Minute Clinic, they will then enter their date of birth after that they will be directed to an assessment form. Once the consumer fills out the assessment, they are taken to select a reason and time for the visit, after they make their selection, a time slot is assigned to the consumer, and email confirmation is sent. If the consumer selects shop at CVS, they are taken to the product inventory where they select the products they want. Once the products are selected the consumer selects whether they want delivery or pick-up, after that the payment method is selected and the order confirmation is sent. Furthermore, the online department receives the order details and notifies the health team member.

Once the order is received by the health team member and they start preparing the items for the order. If a team member comes across an unavailable product or products, they are then given two options: find an alternative product or report unavailable product. Once the products are gathered, an invoice is printed, and orders are sent to the designated pickup area or the delivery team is notified that the order is ready to be delivered. If the consumer selects MinuteClinic and makes an appointment to get vaccinated or tested for COVID-19 then a member from the health team looks over the details of the appointment and checks the completed assessment and prepares the vaccine or the testing kit for the consumer. Once the consumers come in for the service, another health

team member is allocated to collect the sample or give the vaccine to the consumer. Once the service is completed, samples are sent to the lab, and results are published.

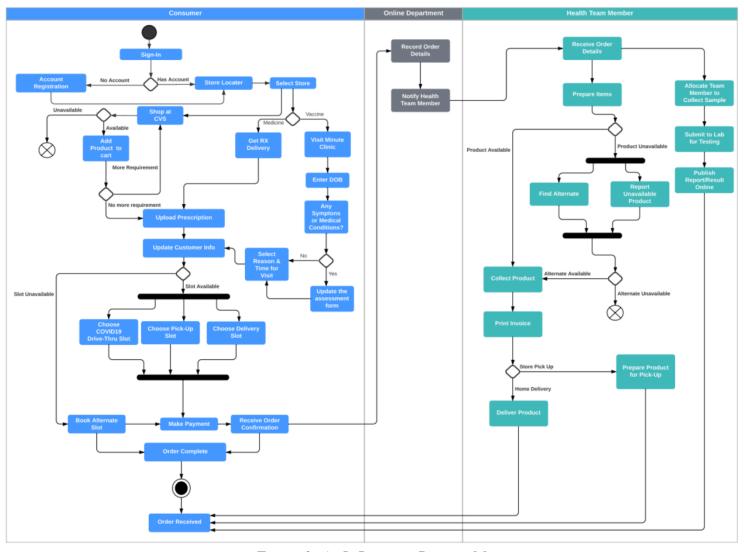


Figure 1: As-Is Business Process Map

1.3 Conceptual Database Design (As-IS ERD)

Consumers are required to register an account in order to access most services on the CVS website. Their personal information will be recorded automictically in the CUSTOMER table once they register their account. Furthermore, the username and password of the consumer will be saved in the ACCOUNT table as well. All product information will be kept in PRODUCT table. Once the consumers pick the service, they want their order information will be saved in ORDER DETAILS table. Depending on which service the consumer chooses they will be directed to the payment screen where their card payment information will be enter and saved in the CARD PAYMENT table.

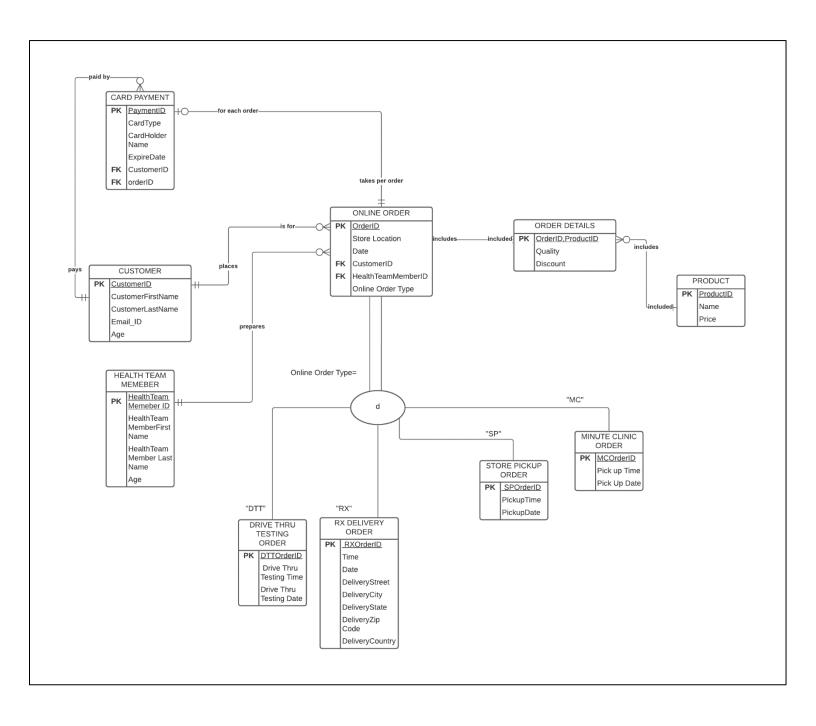


Figure 2: As-Is ERD

Section II: IT- Based Solution Development

2.1 Description of IT-based Solution

The main problem CVS is facing is providing vacancies in a timely manner. As we look the website today there are no appointments available for consumers to get vaccinated. Our proposed system will make the process faster as consumers will be vaccinated using the drive-thru process. The solution is to make the process faster while providing quality service. As CVS's competitor Walgreen's is also capitalizing on the opportunity of vaccinating consumers and building more loyal customers, CVS too will benefit if they create an easier system to provide the service.

Another problem is that due to the pandemic we all have to social distance from one another. This solution has been designed to keep social distancing standards in mind. In our observation we found out that in a typical clinic there isn't much social distancing due to the number of people waiting to get vaccinated. Our solution makes this task easier by letting trained CVS health team member confirm appointments and arrange an appropriate time for the consumer to drive up to the booth and get vaccinated. Another issue many clinics are facing is having to monitor patients in the same area after vaccinating them. In our proposed solution consumers will wait in their car for 15 minutes and a health team member will check on them, this will promote social distancing and keep the consumers safer.

The system will be available for consumers to make appointments, edit appointments and cancel appointments. The consumers will be able to fill out their basic information before setting up an appointment. Also, they will be able to fill out their medical history forms on the website. This will limit the amount of time they spend with another person during their appointment. Once they receive their vaccination, they will be sent an email with after care instructions which will help them learn more about the possible side effects that the vaccine has on some people and how to care for themselves over the next several days. The system will automatically send them a remined for the second dose of the vaccine and they will be able to select the time slot they want.

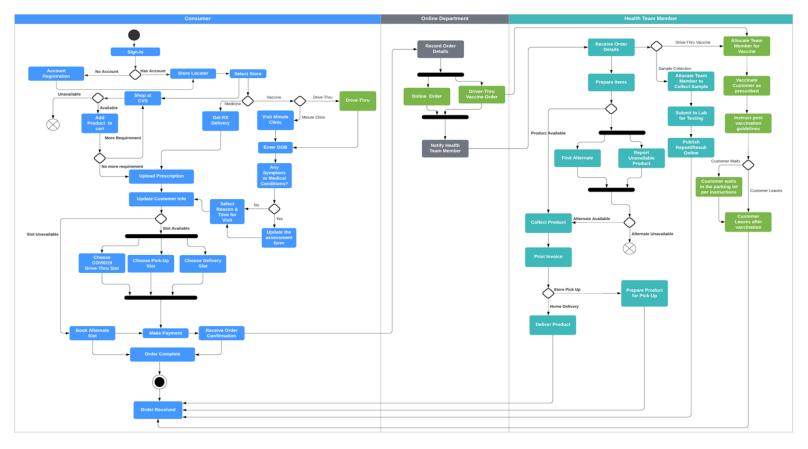
2.2 To-Be Business Process Map

The To-Be business process map will start from the flow of customers log in to their account >> select a specific store location on the CVS app/website before they start an online order. Currently there are three options to complete the customer's order i) Store Pick-up ii) Deliver at home iii) Drive-Thru COVID test. Customers can add items to their shopping cart. Once the items are selected and finalized, the customer needs to proceed to the check-out process. If the item is not available, the system will suggest an alternate and customers can pick the alternate item based on their requirement. Customers are supposed to pick the time for delivery based on their availability. Post receiving the order online department co-ordinates with Health Team Members to complete the order. The orders are fulfilled in a form of home delivery, store pick-up, and collection of COVID samples by the health team members. They then confirm the completion of the order on

the online system so that the customer can get the receipt of the order and the result when available for test.

As far as customer responsibilities are concerned, the customer is required to select time-based on their availability and make the payment. The order is then processed by the online department. The order details are further sent to the CVS Health Team Member in the store that the customer has chosen. The CVS Health Team member prepares the order and checks the availability of the items in the store. If an item is unavailable, the CVS Health Team member will check for alternate suggestions by the customer during the online order submission process. There can still be a situation that the alternate item is also unavailable and, in this case, then the CVS Health Team Member will contact the customer to let them know that the item and the alternate are out of stock and take consent to deliver/pick-up the remaining items. In case of alternate availability, the CVS Health Team member will put the items in the pick-up area or deliver them to the customer as per order preference.

The ordering process is the same in the As-Is process map; however, till now the customer is only able to get the fulfillment of the order and the provision is for medicine pick-up, delivery, and Drive-Thru test. In the To-Be process map, we have added a provision of Drive-Thru vaccine as an option. Customers can choose the Drive-Thru vaccine and enter the form that appears online to fill in the details. Based on the vaccine chosen by the customer the CVS team member vaccinates the customer in the Drive-Thru and instructs the customer on the post-vaccine procedure, such as if the customer must wait in the parking lot or if the vaccine is safe enough to let them drive back to home/office. The customer acts according to the instruction of the CVS Health Team member and the order completes. In a nutshell, we have introduced Drive-Thru vaccination in the To-Be process map considering COVID vaccines are being given to every citizen in the USA and this makes the vaccination process easy not only for the customers but also for CVS as an organization.



^{*}Green represents new business process.

Figure 3: To-Be Business Process Map

2.3 Conceptual Database Design (To-Be ERD)

2.3.1 Information Requirements

To implement IT-based solutions with new business processes, the current database should be updated. Our technical solution will support information requirements in terms of 5Cs (Capture, Convey, Create, Cradle, Communicate) in the following ways:

• Capture: To fulfil the demands of the new CVS drive-thru vaccination system to function there is a lot of information that we need to capture from the consumers as well as the health team members. Consumers will create an account the CVS website. Their information such as username and password will be captured. After the consumer has signed up, they information will be collected and saved. Before consumers can make an appointment for a vaccine, they will have to provide their medical history form, this information will be stored for the health team member to be viewed later. Once the form is

- submitted, the consumer then selects a time and date for appointment and once this data is collected it is stored.
- Convey: The system will convey information regarding availability for appointment and different locations the appointments are available. If selected appointment time is not available, the system then conveys to choose a different time or a different date or a different location. Once the appointment is set the system then conveys that information by sending a notification to the consumer's phone or email.
- Create: The system will check availability for appointment and create an appropriate date and time. System will also create timeline in regard to the vaccine date in consumer's account. The consumer appointment history will be updated as new ones are made.
- **Cradle:** All data related to customers, local store staff, items, and orders from the system are transmitted to a database server that will be maintained by CVS's current database server.
- Communicate: Information regarding appointment time and date will be displayed for the consumer. There will also be an interactive map that will show the different locations the appointment is available at. Once the appointment is selected the consumer will receive an email notification. Orders placed and appointments made will be available for the consumer to view in their accounts.

2.3.2 Business Rules

The business rules intend to maintain business structure or control the behavior of the business. To design a productive database, business rules for the database design and management are as follows:

- One customer may optionally place any number of online orders and one online order is for only one customer.
- One customer can pay by zero or many cards and one card payment is paid by one and only one customer.
- One online order is prepared by one health team member and each health team member can prepare zero or many online orders.
- One online order includes zero or many order details and one order detail is for only one online order.
- Customer must fill the health form to get the drive thru test or COVID-19 vaccine done.
- One product may optionally be included in any number of order details and each order detail includes exactly one product.
- One customer may choose either drive thru testing order, delivery, pickup, minute clinic order, drive thru COVID-19 vaccine or does not have to choose any.
- Customer who gets the drive thru COVID-19 vaccine must wait for a while or shouldn't be driving.

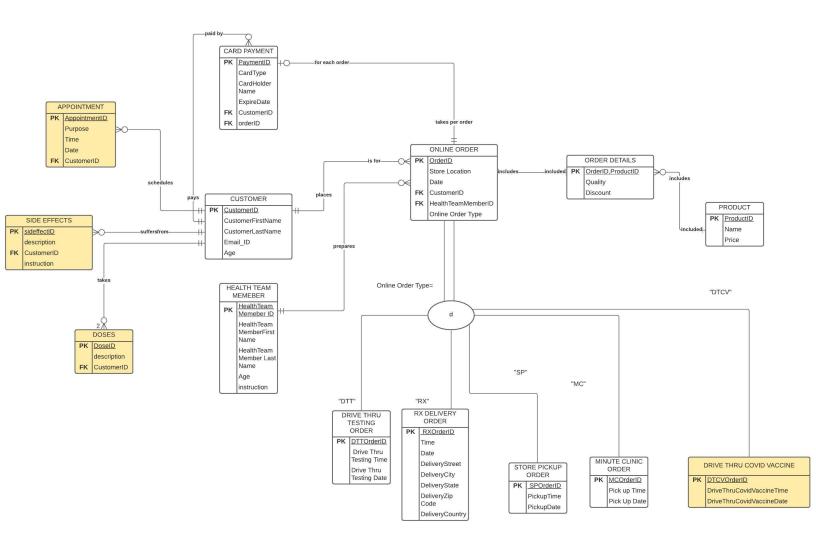


Figure 4: Conceptual Database Design (To-Be ERD)

2.4 Business Function to Data Entity Matrix

Figure 5: Business Function to Data Entity Matrix

Data Entity Types Business Functions	Online Order	Customer	Product	Card_Payment	Order_Details	Drive_Thru_COVID_Vacc ine	Drive- Thru_Testing_Order	Appointments	SideEffects	Doses	RX_Delivery_Order	Store_Pick-up_Order	Minute_Clinic_Order	Health_Team_Member
Account Authorization	Χ	Χ						Х						
Mode of Delivery	Χ	X			Х	X	Х				X	Х	X	
Order Fulfilment	X	Х	Х		Х	Х	Х			Х	Х	Х	Х	Х
Pickup-Time Preference		Х			Х			Х						
Delivery-Time Preference		Х			Х			Х						
Payment	Х	Х	Х	Х	Х									
Wait Time		Х	Х		Х				Х	X				X
Appointment Availability		X		Χ		Х		X					X	Х
Sample Collection		X					X			Х				Х
Health Form		X				X	Х		X	Х			X	

2.5 Logical Database Design

CARDPAYMENT(<u>PaymentID</u>, CardType, CardHolderName, ExpireDate, CustomerID, OrderID)

CUSTOMER(CustomerID, CustomerFirstName,CustomerLastName,EmailID,Age)

$HEALTHTEAMMEMBER (\underline{HealthTeamMemberID},\\$

HealthTeamMemberFirstName,HealthTeamMemberLastName, Age)

ONLINEORDER(OrderID,

StoreLocation,Date,CustomerID,HealthTeamMemberID,OnlineOrderType)

DRIVETHRUTESTINGORDER(<u>DTTOrderID</u>, DriveThruTestingTime,DriverThruTestingDate)

RXDELIVERYORDER(RXOrderID,

Time, Date, Delivery Street, Delivery State, Delivery Zip Code, Delivery Country)

STOREPICKUPORDER(SPOrderID, PickupTime, PickupDate)

MINUTECLINICODER(MCOrderID, PickupTime, PickupDate)

DRIVETHRUCOVIDVACCINE(<u>DTCVOrderID</u>DriveThrouCovidVaccineTime, DriveThrouCovidVaccineDate)

PRODUCT(ProductID, Name, Price)

ORDERDETAILS(OrderID, ProductID, Quality, Discount)

Section III: Database Implementation

3.1 Physical Database Design

CREATE TABLE CVSCustomer(

CustomerID INT(3) NOT NULL,

CustomerFirstName VARCHAR(100) NOT NULL,

CustomerLastName VARCHAR(100) NOT NULL,

EmailID VARCHAR(100) NOT NULL,

Age INT(3) NOT NULL,

CONSTRAINT CVSCustomer pk PRIMARY KEY(CustomerID));

CREATE TABLE HealthTeamMember(

HealthTeamMemberID INT(3) NOT NULL,

HealthTeamMemberFirstName VARCHAR(100) NOT NULL,

HealthTeamMemberLastName VARCHAR(100) NOT NULL,

Age INT(3) NOT NULL,

CONSTRAINT HealthTeamMember pk PRIMARY KEY(HealthTeamMemberID));

CREATE TABLE OnlineOrder(

OrderID INT(3) NOT NULL,

StoreLocation VARCHAR(100) NOT NULL,

Date DATE,

CustomerID INT(3) NOT NULL,

HealthTeamMemberID INT(3) NOT NULL,

CONSTRAINT OnlineOrder pk PRIMARY KEY(OrderID),

CONSTRAINT OnlineOrder fk1 FOREIGN KEY (CustomerID) REFERENCES

CVSCustomer(CustomerID),

CONSTRAINT OnlineOrder_fk2 FOREIGN KEY (HealthTeamMemberID) REFERENCES HealthTeamMember(HealthTeamMemberID));

CREATE TABLE DriveThruTestingOrder(

DTTOrderID INT(3) NOT NULL,

DriveThruTestingTime TIME,

DriveThruTestingDate DATE,

CONSTRAINT DriveThruTestingOrder pk PRIMARY KEY (DTTOrderID));

CREATE TABLE RXDeliveryOrder(

RXOrderID INT(3) NOT NULL,

Time TIME,

Date DATE,

DeliveryStreet VARCHAR (100),

DeliveryCity VARCHAR (100),

DeliveryState VARCHAR (100),

DeliveryZipCode VARCHAR (100),

DeliveryCountry VARCHAR (100),

CONSTRAINT RXDeliveryOrder pk PRIMARY KEY (RXOrderID));

CREATE TABLE StorePickupOrder(

SPOrderID INT(3) NOT NULL,

PickupTime TIME,

PickupDate DATE,

CONSTRAINT StorePickupOrder pk PRIMARY KEY(SPOrderID));

CREATE TABLE MinuteClinicOrder(

MCOrderID INT(3) NOT NULL,

PickupTime TIME,

PickupDate DATE,

CONSTRAINT MinuteClinicOrder pk PRIMARY KEY(MCOrderID));

CREATE TABLE DriveThruCovidVaccineOrder(

DTCVOrderID INT(3) NOT NULL,

DriveThruCovidVaccineTime TIME,

DriveThruCovidVaccineDate DATE,

CONSTRAINT DriveThruCovidVaccineOrder pk PRIMARY KEY(DTCVOrderID));

CREATE TABLE CardPayment(

PaymentID INT(3) NOT NULL,

CardType VARCHAR(100) NOT NULL,

CardHolderName VARCHAR(100) NOT NULL,

ExpireDate DATE NOT NULL,

CustomerID INT(3) NOT NULL,

OrderID INT(3) NOT NULL,

CONSTRAINT CardPayment pk PRIMARY KEY(PaymentID),

CONSTRAINT CardPayment_fk3 FOREIGN KEY(CustomerID) REFERENCES CVSCustomer(CustomerID),

CONSTRAINT CardPayment_fk4 FOREIGN KEY(OrderID) REFERENCES OnlineOrder(OrderID));

CREATE TABLE Product(

ProductID INT(3) NOT NULL,

Name VARCHAR(100) NOT NULL,

Price DECIMAL(6,2) NOT NULL,

CONSTRAINT Product pk PRIMARY KEY(ProductID));

Create table OrderDetails(

OrderID INT(3) NOT NULL,

ProductID INT(3) NOT NULL,

Quantity INT NOT NULL,

Discount VARCHAR (100) NOT NULL,

CONSTRAINT OrderDetails pk PRIMARY KEY(OrderID, ProductID),

 $CONSTRAINT\ Order Details_fk5\ FOREIGN\ KEY (Order ID)\ REFERENCES$

OnlineOrder(OrderID),

CONSTRAINT OrderDetails fk6 FOREIGN KEY(ProductID) REFERENCES

Product(ProductID));

CREATE TABLE Appointment(

AppointmentID INT(3) NOT NULL,

Purpose VARCHAR(100) NOT NULL,

Time TIME,

Date DATE.

CustomerID INT(3) NOT NULL,

CONSTRAINT Appointment pk PRIMARY KEY(AppointmentID),

CONSTRAINT Appointment_fk7 FOREIGN KEY(CustomerID) REFERENCES

CVSCustomer(CustomerID));

CREATE TABLE SideEffects(

SideEffectsID INT(3) NOT NULL,

Description VARCHAR(100) NOT NULL,

Instructions VARCHAR(100) NOT NULL,

CustomerID INT(3) NOT NULL,

CONSTRAINT SideEffects pk PRIMARY KEY(SideEffectsID),

CONSTRAINT SideEffects fk8 FOREIGN KEY(CustomerID) REFERENCES

CVSCustomer(CustomerID));

CREATE TABLE Dosses(

DoseID INT(3) NOT NULL,

Description VARCHAR(100) NOT NULL,

CustomerID INT(3) NOT NULL,

CONSTRAINT Dosses pk PRIMARY KEY(DoseID),

CONSTRAINT Dosses fk9 FOREIGN KEY(CustomerID) REFERENCES CVSCustomer(CustomerID));

3.2 Create Database

```
3.2.1 INSERT Statements
INSERT INTO CVSCustomer(CustomerID, CustomerFirstName, CustomerLastName, EmailID,
Age) VALUES
(1,'James','Smith','jsmith@hotmail.com',45),
(2,'Mary','Miller','marym9@gmail.com',34),
(3,'John','Williams','jowilliams@outlook.com',28),
(4,'David','Martinez','martinezd@hotmail.com',26),
(5, 'Jenny', 'Wilson', 'jenwilson@yahoo.com', 42),
(6, 'Jessica', 'Davis', 'jessicad@gmail.com', 51),
(7,'Richard','Clark','clarkrichard@hotmail.com',48),
(8,'Charles','Jones','cjones@yahoo.com',33),
(9,'Joseph','Rogers','rogersi@gmail.com',27),
(10,'Charles','Bennett','cb@zoho.com',60),
(11, 'Sara', 'Andersen', 'sandersen82@gmail.com',41),
(12,'Diana','Bates','diana123@hotmail.com',18),
(13, 'Elizabeth', 'Goodwin', 'saragoodwin@sohu.com', 29),
(14, 'Susan', 'Bryant', 'susanbry8@gmail.com', 26),
(15, 'Robert', 'Terry', 'rterry@gmail.com', 19),
(16,'Rachel','Green','rachgreen@gmail.com',22),
(17, 'Sarah', 'Bass', 'sarahbass203@gmail.com', 24),
(18, 'Joey', 'Tribbiani', 'joeyt@outlook.com', 61),
(19, 'Romain', 'Jones', 'romainjones@gmail.com', 42),
(20, 'Chandler', 'Bing', 'chanbing@yahoomail.com', 30),
(21, 'Monica', 'Brown', 'monicab@gmail.com', 47),
(22,'Ross', 'Geller','rgeller67@hotmail.com',55),
(23, 'Barbara', 'Johnson', 'barbara86j@gmail.com', 27),
(24, 'Emma', 'Mitchell', 'emmamitch@gmail.com', 42),
(25, 'Noah', 'Adams', 'barbara86j@yahoo.com', 23);
```

INSERT INTO HealthTeamMember (HealthTeamMemberID, HealthTeamMemberFirstName, HealthTeamMemberLastName, Age) VALUES

```
(1,'Anthony','Allen','45'),
(2, 'Daniel', 'Young', '34'),
(3,'Carter','Lewis','28'),
(4,'Elijah','Sanchez','26'),
(5,'Michael', 'Scott','42'),
(6,'Ethan','Wright','51'),
(7,'Emily','Clark','48'),
(8,'Ryan','Jones','33'),
(9,'Nicole','Taylor','27'),
```

```
(10,'Madison','Moore','60'),
(11,'Gavin','Harris','41'),
(12,'Chloe','White','18'),
(13,'Alexis','Robinson','29'),
(14,'Gunther','Gonzalez','26'),
(15,'Ava','Roberts','19');
```

INSERT INTO 'OnlineOrder' ('OrderID', 'StoreLocation', 'Date', 'CustomerID', 'HealthTeamMemberID') VALUES ('123', '4238 Wilson Blvd, Arlington, VA', '2021-03-01', '23', '1'), ('124', '256 N Glebe Rd, Arlington, VA', '2021-04-04', '20', '2'), ('125', '256 N Glebe Rd, Arlington, VA', '2021-03-08', '8', '3'), ('126', '4709 Lee Hwy, Arlington, VA', '2021-04-02', '10', '4'), ('127', '10090 Fairfax Blvd, Fairfax, VA', '2021-03-08', '4', '5'), ('128', '6514 Georgia Ave NW, Washington, DC', '2021-03-15', '12', '6'), ('129', '400 Massachusetts Ave NW, Washington, DC', '2021-03-20', '13', '7'), ('130', '9202 N Florida Ave, Tampa, FL', '2021-03-18', '24', '8'), ('131', '3005 FL-540, Winter Haven, FL', '2021-03-22', '1', '9'), ('132', '8928 Burke Lake Rd, Springfield, VA', '2021-03-29', '5', '10'), ('133', '640 Hurst St, Center, TX', '2021-04-04', '6', '11'), ('134', '8117 Leesburg Pike Vienna, VA', '2021-04-07', '18', '12'), ('135', '337 East Maple Street Vienna, VA', '2021-03-24', '3', '13'), ('136', '64 Cedar Lane, Se, Cedar Park & Shop Vienna, VA', '2021-04-08', '9', '14'), ('137', '670 Welsh Rd, Huntingdon Valley, PA', '2021-03-28', '24', '15');

INSERT INTO `DriveThruTestingOrder` (`DTTOrderID`, `DriveThruTestingTime`, `DriveThruTestingDate`) VALUES ('111', '11:35:03', '2021-03-09'), ('112', '12:40:03', '2021-03-09'), ('113', '10:34:03', '2021-03-11'), ('114', '10:38:03', '2021-03-12'), ('115', '10:38:08', '2021-03-13'), ('116', '10:38:12', '2021-03-14'), ('117', '13:33:03', '2021-03-15'), ('118', '14:28:03', '2021-03-16'), ('119', '14:08:52', '2021-03-17'), ('120', '14:13:52', '2021-03-18'), ('121', '14:16:52', '2021-03-19'), ('122', '14:58:52', '2021-03-22'), ('123', '10:08:52', '2021-03-23'), ('124', '11:08:52', '2021-03-24'), ('125', '12:08:52', '2021-03-25'), ('126', '11:32:52', '2021-03-26'), ('127', '13:18:52', '2021-03-27'), ('128', '13:36:28', '2021-03-28'), ('129', '12:16:25', '2021-04-05'), ('130', '12:20:37', '2021-04-07');

INSERT INTO `RXDeliveryOrder` (`RXOrderID`, `Time`, `DeliveryStreet`, `DeliveryCity`, `DeliveryState`, `DeliveryZipCode`, `DeliveryCountry`) VALUES ('331', '14:46:19', '2021-03-08', '12011 Burke Chase', 'Fairfax', 'VA', '22032', 'USA'), ('332', '14:46:19', '2021-03-10', '20323 Ave St', 'Arlington', 'VA', '22205', 'USA'), ('333', '11:46:19', '2021-03-15', '3324 Marine Dr', 'Arlington', 'VA', '22206', 'USA'), ('334', '15:46:19', '2021-04-07', '1209 Empire Ave', 'Washington', 'DC', '22208', 'USA'), ('335', '11:58:17', '2021-03-22', '1209 Empire Ave', 'Washington', 'DC', '20008', 'USA'), ('336', '14:56:19', '2021-03-10', '1352 Corp Blvd', 'Washington', 'DC', '20009', 'USA'), ('337', '13:26:15', '2021-03-15', '7253 Bule Apt.', 'Washington', 'DC', '20012', 'USA'), ('338', '13:54:15', '2021-03-23', '2373 Panama Dr', 'Philadelphia', 'PA', '15014', 'USA'), ('339', '15:26:15', '2021-03-29', '4423 Lake Ct.', 'Pittsburgh', 'PA', '15015', 'USA'), ('340', '15:38:52', '2021-03-16', '3758 Mary St', 'Pittsburgh', 'PA', '15019', 'USA'), ('341', '15:48:52', '2021-03-30', '5675 Lane Ave', 'Austin', 'TX', '75006', 'USA'), ('342', '16:35:18', '2021-03-26', '5872 Jane Ct', 'Houston', 'TX', '75011', 'USA'), ('343', '14:32:22', '2021-03-16', '17X', '175011', 'USA'), ('343', '14:32:22', '2021-03-16', '17X', '75011', 'USA'), ('343', '14:32:22', '2021-03-16', '17X', '17X', '17X', '17X', '17X', '17X', '17X', '17X'

03-21', '3547 Pond St', 'Austin', 'TX', '75015', 'USA'), ('344', '16:32:18', '2021-03-30', '54782 Chase Ct', 'Panama City', 'FL', '32004', 'USA'), ('345', '15:32:15', '2021-04-04', '9457 Jeff St', 'Tampa', 'FL', '32006', 'USA'), ('346', '11:32:25', '2021-04-05', '5829 Venue Dr', 'Haven', 'FL', '32007', 'USA'), ('347', '12:22:17', '2021-03-19', '4574 Jane Ave', 'Tampa', 'FL', '32008', 'USA'), ('348', '13:32:17', '2021-04-07', '5792 State St.', 'Philadelphia', 'PA', '15017', 'USA'), ('349', '12:45:15', '2021-04-08', '9857 Jack St.', 'Pittsburgh', 'PA', '15018', 'USA'), ('350', '12:45:15', '2021-04-08', '9857 Jack St.', 'Pittsburgh', 'PA', '15018', 'USA');

INSERT INTO `StorePickupOrder` (`SPOrderID`, `PickupTime`, `PickupDate`) VALUES ('120', '15:23:47', '2021-03-29'), ('121', '16:23:47', '2021-03-24'), ('123', '15:22:47', '2021-03-22'), ('124', '11:33:47', '2021-03-18'), ('125', '10:43:52', '2021-03-16'), ('126', '10:33:48', '2021-03-13'), ('127', '10:31:52', '2021-03-12'), ('128', '11:11:25', '2021-03-11'), ('129', '11:11:25', '2021-03-10'), ('130', '11:19:25', '2021-03-09'), ('131', '12:01:38', '2021-03-08'), ('132', '12:31:33', '2021-04-01'), ('133', '12:36:52', '2021-04-02'), ('134', '12:48:33', '2021-04-03'), ('135', '12:52:08', '2021-04-04'), ('136', '12:56:33', '2021-04-05'), ('137', '14:56:33', '2021-04-06'), ('138', '15:35:31', '2021-04-07'), ('139', '16:38:42', '2021-04-08'), ('140', '16:55:43', '2021-04-09');

INSERT INTO `MinuteClinicOrder` (`MCOrderID`, `PickupTime`, `PickupDate`) VALUES ('202', '13:31:08', '2021-03-09'), ('203', '14:31:08', '2021-03-11'), ('204', '14:45:08', '2021-03-12'), ('205', '14:52:53', '2021-03-17'), ('206', '14:46:40', '2021-03-18'), ('207', '14:58:02', '2021-03-22'), ('208', '10:30:02', '2021-03-23'), ('209', '10:02:32', '2021-03-25'), ('210', '10:46:37', '2021-03-28'), ('211', '10:55:22', NULL), ('212', '12:13:22', '2021-03-30'), ('213', '12:17:22', '2021-04-01'), ('214', '12:36:52', '2021-04-02'), ('215', '12:37:42', '2021-04-03'), ('216', '13:46:42', '2021-04-04'), ('217', '13:02:01', '2021-04-05'), ('218', '13:06:08', '2021-04-06'), ('219', '13:28:57', '2021-04-07'), ('220', '15:48:57', '2021-04-08'), ('221', '15:52:42', '2021-04-09');

INSERT INTO 'DriveThruCovidVaccineOrder' ('DTCVOrderID',

'DriveThruCovidVaccineTime', 'DriveThruCovidVaccineDate') VALUES ('330', '14:38:39', '2021-03-03'), ('331', '13:38:39', '2021-03-05'), ('332', '14:52:39', '2021-03-09'), ('333', '10:18:42', '2021-03-12'), ('334', '10:42:18', '2021-03-16'), ('335', '10:52:34', '2021-03-18'), ('336', '11:38:42', '2021-03-19'), ('337', '11:09:41', '2021-03-22'), ('338', '11:52:08', '2021-03-24'), ('339', '12:07:42', '2021-03-26'), ('340', '12:10:56', '2021-03-29'), ('341', '12:35:08', '2021-03-30'), ('342', '13:13:08', '2021-03-31'), ('343', '13:18:58', '2021-04-01'), ('344', '13:47:53', '2021-04-02'), ('345', '14:07:17', '2021-04-04'), ('346', '14:25:22', '2021-04-06'), ('347', '14:38:17', '2021-04-07'), ('348', '15:52:47', '2021-04-08'), ('349', '16:20:36', '2021-04-09');

CardPayment` ('PaymentID`, `CardType`, `CardHolderName`, `ExpireDate`, `CustomerID`, `OrderID`) VALUES ('500', 'Debit Card', 'Chandler Bing', '2022-08-09', '20', '124'), ('501', 'VISA Card', 'Charles Jones', '2023-05-07', '8', '125'), ('502', 'Debit Card', 'Charles Bennett', '2022-07-09', '10', '126'), ('503', 'Cedit Card', 'David Martinez', '2022-04-04', '4', '127'), ('504', 'VISA Card', 'Diana Bates', '2023-03-07', '12', '128'), ('505', 'Debit Card', 'Elizabeth Goodwin', '2027-04-02', '13', '129'), ('506', 'Debit Card', 'Emma Mitchell', '2022-05-09', '24', '130'), ('507', 'VISA Card', 'James Smith', '2025-03-02', '1', '131'), ('508', 'Credit Card', 'Jenny Wilson', '2021-08-09', '5', '132'), ('509', 'Credit Card', 'Jessica Davis', '2021-09-08', '6', '133'), ('510', 'Credit Card', 'Joey Tribbiani', '2023-03-07', '18', '134'), ('511', 'VISA Card', 'Jonh Williams', '2025-05-09', '3', '135'), ('512', 'Debit Card', 'Joseph Rogers', '2021-09-10', '9', '136');

INSERT INTO 'Product' ('ProductID', 'Name', 'Price') VALUES ('300', 'CVS Health Mucus Relief Extended-Release Bi-Layer', '19.99'), ('301', 'CVS Health Nighttime Cough Relief Liquid Cherry', '9.49'), ('302', 'Robitussin Adult Maximum Strength Nighttime Cough DM Medicine', '6.99'), ('303', 'CVS Health Maximum Strength Nighttime Severe Cough Relief', '11.79'), ('304', 'appleciderviniger', '13.99'), ('305', 'AlkaSeltzer Plus Severe cold & flu day medicine', '14.79'), ('306', 'CVS Health Resistance Band', '49.99'), ('307', 'Vicks DayQuil', '2.99'), ('308', 'CVS Health Pulse Oximeter', '9.94'), ('309', 'D Natural no Cow Bar', '9.99'), ('310', 'Ensure Original', '10.49'), ('311', 'CVS Health Friction Guard Blister Spray', '7.49'), ('312', 'Organic Nutritional Shakes', '4.79'), ('313', 'Nutrogena Makeup Remover', '11.29'), ('314', 'Maybelline Baby Lips', '17.99'), ('315', 'CVS Health Sinus Congestion Caplets'', '12.49');

INSERT INTO 'OrderDetails' ('OrderID', 'ProductID', 'Quantity', 'Discount') VALUES ('123', '300', '5', 'DISCOUNT INCLUDED'), ('124', '301', '3', 'DISCOUNT NOT INCLUDED'), ('125', '302', '2', 'DISCOUNT INCLUDED'), ('126', '303', '2', 'DISCOUNT NOT INCLUDED'), ('127', '304', '6', 'DISCOUNT INCLUDED'), ('128', '305', '12', 'DISCOUNT NOT INCLUDED'), ('129', '306', '44', 'DISCOUNT INCLUDED'), ('130', '307', '4', 'DISCOUNT NOT INCLUDED'), ('131', '308', '9', 'DISCOUNT INCLUDED'), ('132', '309', '4', 'DISCOUNT NOT INCLUDED'), ('133', '300', '3', 'DISCOUNT INCLUDED');

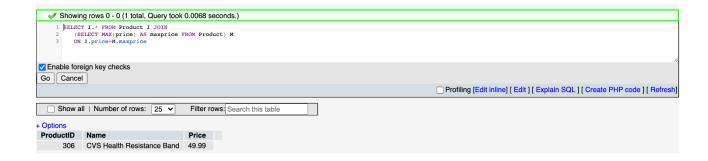
INSERT INTO 'Appointment' ('AppointmentID', 'Purpose', 'Time', 'Date', 'CustomerID') VALUES ('600', 'Drive Thru Testing'', '10:34:03', '2021-03-09', '23'), ('601', 'Minute Clinic ', '14:31:08', '2021-03-09', '4'), ('602', 'Drive Thru Testing'', '10:38:03', '2021-03-11', '20'), ('603', 'Minute Clinic ', '14:52:53', '2021-03-12', '10'), ('604', 'Drive Thru COV19 Vaccine', '10:18:42', '2021-03-12', '8'), ('605', 'Drive Thru COV19 Vaccine', '13:38:39', '2021-03-05', '13'), ('606', 'Drive Thru Testing'', '10:38:12', '2021-03-13', '5'), ('607', 'Drive Thru COV19 Vaccine', '14:52:39', '2021-03-09', '1'), ('608', 'Drive Thru COV19 Vaccine', '10:42:18', '2021-03-16', '9'), ('609', 'Drive Thru COV19 Vaccine', '10:52:34', '2021-03-18', '11'), ('610', 'Drive Thru COV19 Vaccine', '11:38:42', '2021-03-19', '14'), ('611', 'Drive Thru COV19 Vaccine', '10:52:34', '2021-03-18', '3'), ('612', 'Drive Thru COV19 Vaccine', '11:52:08', '2021-03-22', '22');

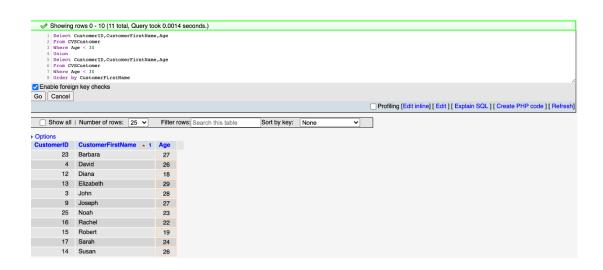
INSERT INTO 'Dosses' ('DoseID', 'Description', 'CustomerID') VALUES ('700', 'COVID VACCINE DOSE 1', '8'), ('701', 'COVID VACCINE DOSE 2', '13'), ('702', 'COVID VACCINE DOSE 1', '5'), ('703', 'COVID VACCINE DOSE 1', '1'), ('704', 'COVID VACCINE DOSE 2', '9'), ('705', 'COVID VACCINE DOSE 1', '11'), ('706', 'COVID VACCINE DOSE 2', '14'), ('707', 'COVID VACCINE DOSE 1', '3'), ('708', 'COVID VACCINE DOSE 2', '22');

INSERT INTO 'SideEffects' ('SideEffectsID', 'Description', 'Instructions', 'CustomerID') VALUES ('900', 'Nausea', 'wait for 30 mins before leaving.', '8'), ('901', 'Headache', 'wait for 30 mins before leaving.', '13'), ('902', 'Nausea', 'wait for 30 mins before leaving.', '9'), ('903', 'Headache', 'wait for 30 mins before leaving.', '11'), ('904', 'Swelling', 'wait for 30 mins before leaving.', '14'), ('905', 'Headache', 'wait for 30 mins before leaving.', '22'), ('906', 'Swelling', 'wait for 30 mins before leaving.', '3'), ('907', 'Nausea', 'wait for 30 mins before leaving.', '5'), ('908', 'Swelling', 'wait for 30 mins before leaving.', '1');

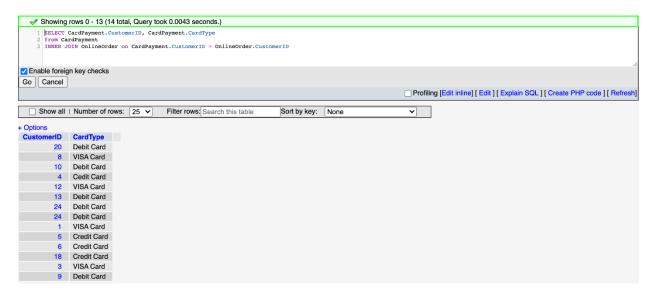
3.2.2 SELECT Statements

- 1. Display product information "Product" of maximum price and join to find the name of the product with maximum price.
- 2. Display customer information CustomerID, CustomerFirstName,Age and Age of CustomerID less than 30 Years in in age by using union

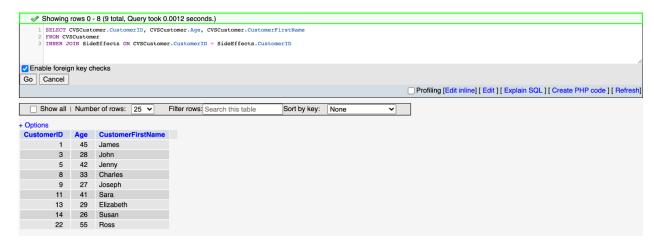




3. Display Card Information CardPayment.CustomerID, CardPayment.CardType from CardPayment table and check the type of card used by Customer while making online order using inner join query



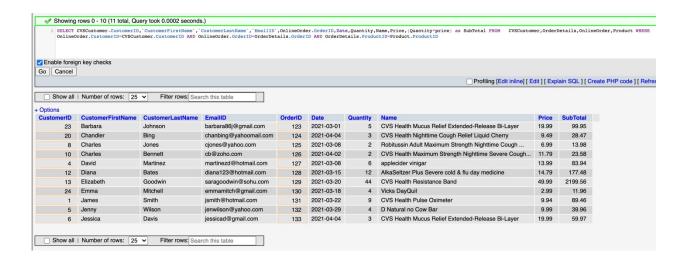
4. Display Customer Information CVSCsutomer.CustomerID, from SideEffects table and check the how many customers had SideEffects with CustomerFirstName and Age using the inner join query.



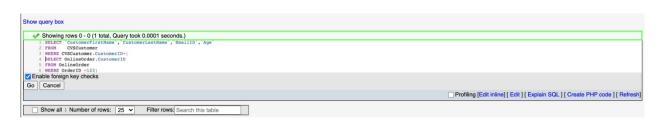
5. Display list of information of products of which standard prices are greater than average product price



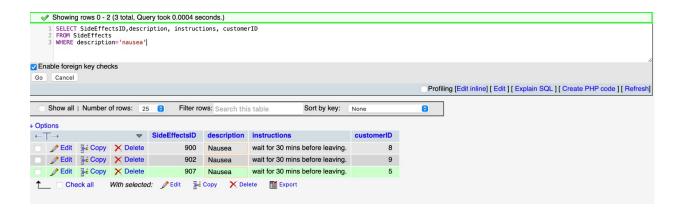
6. Assemble all information necessary to create an invoice for order numbers.



7. What are the First Name, Last Name, EmailID and Age of the customer who placed order 123?



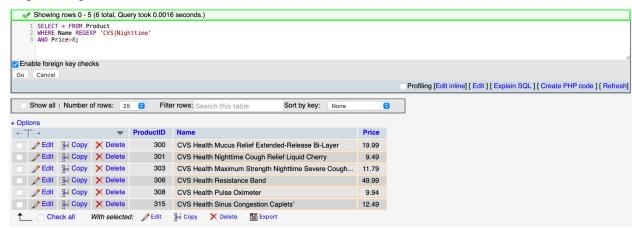
8. Display SideEffectsID, description, Instruction and CustomerID from SideEffects table Where description is nausea.



9. Display the first 3 rows and all columns from customer table where first name ends with 's' and arranged alphabetically by first name.



10. Display all product information with product name either has 'CVS' or 'Nighttime' and its price is greater than 8.



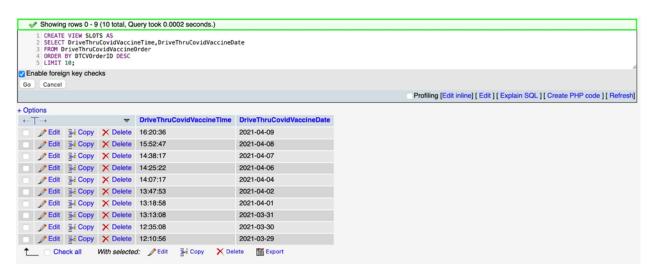
11. Display purpose, time and date of the appointment where the appointment is more than 605 ordered by customerID

Eg.Print string as 'The purpose is (purpose) at (time)(date).'



12. Display first 10 rows of vaccine date and time in highest to least DTCVOrderID as a View(Temporarytable)





References

MinuteClinic, www.cvs.com/minuteclinic/?icid=CVS-HOME-PWRZN-MINUTECLINIC.

History. (n.d.). Retrieved March 29, 2021, from https://www.cvs.com/minuteclinic/visit/about-us/history