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Assignment

Task 1

Scenario analysis:

The CEO of mediLink pharmacy wants to develop a robust database solution using Microsoft Access. For this I would need information about what kind of medicines they have in their pharmacy and what kind of prescriptions they do daily. This would help me make a solution database for the problems that they are having. I would also need records of all the records suppliers that they are providing in this pharmacy.

this also includes providing customers with personal details like their names and their date of birth as well. This would also include their medical conditions and doctors' details as this will help me complete their database based on their medical conditions and what the pharmacy needs to do better in therefore I would need all the information I can, I would have to completely help them to improve on what they are doing wrong. The things that they are doing wrong is that they get mixed up, by this i mean they have provided a brief on this, stock, prescriptions, and customer details manually, which often leads to errors and inefficiencies this means that they would need a database for each of the problems and have a little strategy on how the staff would work for each of them.

For each of these problems i am going to make up a database that will help them to see what they can do better and how they can improve on all of them things. I will make a database for each for example, the patients records I will make a database on how they would find them easily and what kind of dosage of medication they use, this will help them improve and manage to find the patients record more easily as they would have an example how to do it. Another example that I can make for them is if they don't want to do it that way I would recommend that they will look at the database for doctors by this I mean I will make a database for the doctors for example, I would put the doctors IDs and their patients record which they will find more easily.

Entity-Relationship Diagram (ERD)

Suppliers:

A name of the company that
supplies the medication

medicines:

prescriptions for the patients
Labeled with their names and addresses

Customers:

Patients that collect
Their prescriptions

sales transaction:

each item is part of one prescription

Prescriptions:

Check each prescription as they can be mixed
As one medicine can be on many prescriptions

This diagram shows on how easily the work that they are having problems with can be done easily under each of the headings i have put a little example that they can take notes on as well as take an example of what they need and how easily they can find their prescriptions and patients detail as well as their doctors information. This is a little example of how I think they would improve as a team of effective leaders in pharmacy. This diagram has information on how the database would look like when I have completed it, I wanted to show them that by this diagram I am willing to help them as well as the patients to get what they want.

Data structure Development:

Medication:	patients	prescription	sales
Medication ID	patients ID	prescription ID	sale ID
Name	name	patients ID	patient ID
Dosage	date of birth	medication ID	medication ID
Form	contacts information	dosage instructions	quantity sold
Manufacturer	address	date issued	sale date
Price		expiration date	total price

These instructions allow for instant tracking of medications, patients, patient information, and how to manage their prescriptions and track how many dosages they really need based on this table. By this data structure, they can manage how to find the right medication for each customer as it shows on the diagram you can access all the information if they allow this data structure to be in their systems.

Normalization Compliance in 3NF form

Doctor ID	Doctor name	Doctor specialty
1	Dr. Smith	Gp
2	Dr. Chander	Cardiology

Prescription ID	Patients ID	Medication name	Dosage	Doctor ID
1	10	Ibuprofen	500mg	1
2	11	Amoxicillin	10mg	2
3	12	lisinopril	500mg	1

This is an example of a 3NF form and how it should look like if I would do and database for this pharmacy. The doctors table makes it easier to update a doctor specialty without modifying multiple record in the prescription table which means that you can have the record stored and be able to find it easily without going through bunch of text to find the right dosage a patient should use. These are a few examples that I think that the pharmacy

would appreciate and take notes on how to improve by this. This example shows how the dosage of each patient or customer that is registered there should be taken out; it shows the exact dosage that the patient needs and how you can find that patient easily.

Sample Data Population e.g. riders, bike records, rentals, maintenance logs

Rider ID	RIDER NAME	PHONE
1	Alisson J	555-123-4567
2	Bob W	555-564-6775
3	Davis C	555-353-5675
4	David L	555-535-7823
5	Eve B	555-252-6556

Bikes table:

Bike ID	Bike model	Purchase date	Status
101	Mountain bike	2023	Available
102	Road bike	2023	Rented
103	Hybrid bike	2023	available
104	Electric bike	2023	Inservice
105	Cruiser bike	2023	Available

Rentals table:

Rental ID	Bikel ID	Rider ID	Rental date	Return date
1	102	2	2024	01.22.24
2	101	1	2024	01.26.24
3	103	3	2024	Null
4	105	4	2024	Null
5	101	5	2024	02.16.24

Maintenance logs table

Log ID	Bike ID	Date	description	Cost
1	104	2023	Tire repair	25
2	102	2023	Chain lubrication	10
3	104	2024	Barke adjustment	20
4	101	2024	Gear tunes up	15
5	103	2024	Tire replacement	30

These are all just examples of bikes and how should it be stored in the system if they need help finding them this will allow them to be easily found. By this example I am showing that it can be done with in the pharmacy as well this will help them understand easily and every prescription and patient will be easily found and it would save more time and get to each patient more quickly and easily so I would recommend this and they should really work on their system and how they store there patients cards. These examples that I have found would be based on pharmacy. If they would like it I would complete a full database on their pharmacy which it would help them improve on what they are doing wrong. By this i mean that they would be smarter and work faster as well.

Validation and Testing

All steps including tables structures, sample data, queries, and test results are documented in a report as you can see above this confirms that the database meets requirements for stock control, reporting and regulation compliance with minimal data integrity. By this i mean that i have completed a database on other things to show how the data structure would look like if they would like me to complete theirs on behalf of the pharmacy. I have completed a database of doctors' information as an example for them to see if this would help them a little bit more than they need. I have provided a database on the patients' details as well as an example on how to find them quickly and easily on their system, as they wouldn't need all the information from them and what kind of medication they would need as well. I have completed a database for them to see if that would help them as well as this i have completed a full database on bike to help them understand it and how the database would look as when I have completed if fully, as well as that I have completed several diagrams to show them a little bit on what I am going to work on at first to help them get forward, this means that I have shown them all the examples on how I would help them in the best possible way.

Task 2

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A concise explanation:

All the ideas I have put up on task 1 explain how I would work on the pharmacy database, how it would help them and how the database for the database would look like. These

examples, would help the pharmacy with all the problems that they are having in the system, the prescriptions and their patient's information as now it looks like they don't have it all under control and they do not know what they should do so for their help I explained in task one how they should control all of their records on each problem that they are having at the moment. The purpose of their problems can be solved easily if they need help and ask for it, I will do everything I can to help them solve the problems as I stated in task 1. These ideas would help the owner and the staff to do their work easily and be more productive as they are having problems with this as well. I have put a lot of work in for them to see that the work that they are doing can be done easily if they follow the structure and database i have provided them as this is the best way for me to help them and all the patients without waiting a long time for their medication.

Short report:

I have built an example of this:

Doctor ID	Doctor name	Doctor specialty
1	Dr. Smith	Gp
2	Dr. Chander	Cardiology

This example explains how the pharmacy would look like if they had this kind of system in their database. How would it help them? This would help them build a spontaneous record in their systems. I have chosen this simple structure because it would help the staff understand it better as they might find some database harder, by that i mean that i would put a complicated database because they might not want this kind of database i would put more examples and send it to them and choose what kind they would like as they might find it easier if they have a complicated database, this simply shows the doctors details for example in this database:

Prescription ID	Patients ID	Medication name	Dosage	Doctor ID
1	10	Ibrufen	500mg	1
2	11	Amoxicillin	10mg	2
3	12	lisinopril	500mg	1

It shows the patient's record, which can be easily shown. This database shows the dosage of what medication they need and what dosage they should use if they put their

prescription ID or patients ID they would find them easily and by that they would know what medication the doctors prescribed them so it would be easy to find the prescription by just putting the IDs in the system which is very easy and quick to find this is why I have used this simple database as it would be very easy to find. After some time if they would get used to this database, I would provide them with another quite difficult database so that they can get used to it by time as well as to this one I have provided in task 1. in the future I would have done a little thing better such as providing them with more details to how to find their patients' medical record by only using one stem and not only use a lot of things before finding them.

References

[Fortra's Data Classification Suite](#)

[18 Data Visualization Diagrams: Templates Included](#)

[Why Problem-Solving Skills Are Essential for Leaders](#)

[Data Tables in Excel \(Easy Steps\)](#)