**DBMS LAB- Final Project**

This project is about drugs company to sale drugs.

The drugs company works based on the following roles:

* For each drug, the trade name and formula must be recorded. The trade name identifies the drug uniquely from the products of the drug Company.
* Each drug Company is identified by a name and has a phone number.
* Each drug is sold by only one drug Company, while each drug company sells many drugs.
* Patients are identified by an id, and their names, addresses, and ages must be recorded.
* Doctors are identified by an id. For each doctor, the name, specialty and years of experience must be recorded.
* Each patient has only one doctor, while each doctor has at least one patient.
* Each pharmacy has a pharmacy name, address, and phone number. Each pharmacy is identified by pharmacy name. It's not allowed to save the same phone number for two different pharmacies.
* Each pharmacy sells several drugs and has a price for each. A drug could be sold at several pharmacies and the price is different from pharmacy to another.
* Doctors prescribe (suggest) drugs for patients. A doctor could prescribe one or more drugs for several patients, and a patient could obtain prescriptions from several doctors. Each prescription has a date and a quantity associated with it.
* Drug companies have contracts with pharmacies. A drug company can contract with several pharmacies, and a pharmacy can contract several drug companies. For each contract you have to store a start date, an end date and the text for contract.

**Grading Criteria:**

You should submit a .zip file containing these files inside:

1. Your ER diagram as image (.PNG) using Visual Paradigm.
   * + - Your ERD should show Entities, attributes, relationships, cardinalities…
       - Click this link to go to Visual Paradigm site:  
         <https://www.visual-paradigm.com/>
2. **A report includes:**

* Your ERD design and any justification for your design (you must consider the entire project).
* Convert your ERD to **relational schema**, identifying the primary key(s) and foreign key(s) for each table with the table(s) that the FK references to, then include your schema with the report.

1. A text file that contains the whole code for constructing the database.
2. Export your DB as (.sql) file.
3. A text file that contains names and ids of students participated in the project.

**Read Carefully**:

* This project is a group project, you can work in groups, each group consisting of at most **three students**.
* Only one student from the group will submit the project answer.
* Be aware of the values you will enter to database, make it **suitable** to give good results for the questions bellow as much as you can.

(اجعلي البيانات التي ستدخلينها منطقية ومناسبة وتخدم الأسئلة المطلوب منك حلها بأقصى درجة ممكنة، حتى تظهر نتيجة تنفيذ الأوامر بشكل واضح)

* The first page of file of submission should contains the names and ids of students participated in the project, The other pages should contain each question and your answer bellow it.

(الصفحة الأولى من ملف التسليم يجب أن تحتوي على أسماء وأرقام الطالبات المشاركات في المشروع، باقي الصفحات يجب أن تحتوي على رقم السؤال المطلوب حله مع نصه، ثم قومي بإدراج الحل أسفل السؤال بالطريقة المطلوبة الموضحة في الأسف- أسفل السؤال الأول-)

* Any form of cheating will result in receiving **ZERO** in the project.

|  |  |
| --- | --- |
| هذه مجموعة من القيم المحتملة الصحيحة التي يمكن إدخالها إلى جدول  Drugs | |
| **Trade name** | **Formula** |
| Acamol | Tablet |
| Azicare | Suspension |
| Tramadol | Tablet |
| Panadol | Tablet |
| Prolol | Tablet |
| Medrol | Vial |
| Ventolin | Inhaler |

**Q1:**

**Write SQL statements to create the required tables with all attributes and constrains. Then, for each table take two screenshots for:**

* The window that shows the SQL statement for creation this table.
* The window that describes the structure of the table.

(That means we must submit 2 pictures for each table, one for the SQL code when creating that table, another for the structure of that table after creation).

**Q2:**

**Write SQL statements to perform the following tasks (you must submit 2 pictures, one for statement and second for the result:**

1- Change the name and data type of the attribute (name) from doctor table.

2. Alter the attribute (phone number) in pharmacy table, make it takes any reasonable default value you choose. Explain your answer if any error accrues.

3- Insert at least five records into each table.

4- Insert a new record into pharmacy table with empty value to the address attribute, then update the previous record to let it holds data in its empty cell.

5- Merge the id and name columns from patient table to make it look like this "1 : Ahmed” and call the new resulting column **patient Information**.

6- List drugs names which its price exceeds the average of all drugs price.

7- List all patient’s names who take drug called "Panadol".

8- List formula of drugs which its price is better than the maximum price for pharmacies that have a name contains 'al' characters.

9- List all address of pharmacies that sell the drug which its formula is "Tablet".

10- For each doctor, list its name and the number of patients associated with him, if the doctor has no patients include its name also.

11- List drugs which price falls within the range of smallest price and 1000. (Use subqueries)

12- List names and ages of patients whose ages are greater than some patients having one of the following ages (20,25,30). (Use set membership & set comparison & subqueries)

**Best wishes, my dear students 😊**