Technical University of Moldova

Faculty of Computers, Informatics and Microelectronics

Department of Software Engineering and Automatics

Databases and Knowledge

COURSE WORK: NAMEOFYOURDATABASE

E-R Moddeling. Database Normalization. Management of the database

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DATABASE NORMALIZATION

All the objects and implimentation of each practical exercise must be included in a T-SQL script. The final user should be able to run the script multiple times without errors.

Note: The exported script will not be considered.

1 Design of the database

Design the database that will be in the 3NF or BCNF. Attach the diagram of this database. It should include 3 types of relationships:

a) 1:1;

b) 1:n;

c) n:n;

Describe all the entities from business point of view and the role of each defined relationship.

2 Table Creation and Modification

The database must have:

a) 4 different database constraints;

b) 1 default value;

c) minimum 5 records per table;

d) the tabled should be included in 2 different schemes;

e) for 3 key elements of the database to be defined synonyms;

MANIPULATION OF THE DATABASE

3 SELECT query in T-SQL

a) Write a query on you database that will use AGGREGATION FUNCTION, GROUP BY and HAVING clause;

b) Show an example of a query that use subqueries in other places except WHERE ;

Attach the screens with the output of the queries.

4 Stored procedures and function defined by user

1. Create a user defined function based on example A from previous exercise
2. Create a stored procedure based on example B from previous exercise.

5 Indexes

Increse the performance of your database by creating an idex for one of the execrcises from previous section SELECT query in T-SQL.

Show the results of this optimization using the performance excution plan before and after the index have been created (attach screens if it is necessary).

6 View administration

Create a view bazed on one of your scheme. Use one of the options: CHECK OPTION or SCHEMA BINDING.

Show with examples how it is working (attach screens if it is necessary).

7 Triggers

Create a trigger that will forbid modification of the column that have DEFAULT value.

8 Database backup and restore

Create a differenatial backup of your database. Restore it to a new database named restoredDB.

9 Script

Included the script that will realize all the tasks.

```
1 SELECT * FROM NAME_OF_YOUR_DATABASE
```

Listing 1 – Database NAMEOFYOURDATABASE

Concluzie

Aici trebuie sa fie concluzia ta.

References

1 Aldebran Robotics, *official page*, www.aldebaran.com/en

2 Timo Ojala, *Multiresolution gray-scale and rotation invariant texture classification with local binary patterns*, 2002

3 Biometric, www.biometricupdate.com/201501/history-of-biometrics