Assignment # 3

Relational model and Implementation

Part 1 and Part 2 Due: Thursday, March 21, 2019 **at** 2:30 PM **in class submission**

Part 3 Due: Thursday, March 21, 2019 **on or before** 11:59PM **on BlackBoard**

Purpose:

To transform the E-R diagrams that were developed during conceptual design into relational database schemas.

Guidelines:

There are **three** parts to this assignment. Follow the instructions given below:

Part 1:

- Use the transformation steps used in the tutorial and lectures to transform the given E-R diagram into relations.
- Be sure to underline all the necessary primary keys, include all necessary foreign keys, and indicate referential integrity constraints. For each relation, indicate the normal forms it is currently in.
- Diagram the functional dependencies in each relation.

You will submit a neat print-out of the relations (use the same format as discussed in lectures / tutorials) done using any application. Excel is best suited☺ You may choose to draw the arrows by hand. The diagrams should fit neatly on one page.

Part 2:

- Normalization is a process to reduce the anomalies in the resulting relations. Now, **apply the steps** involved in normalization, and convert the relations to 3NF.

You will submit a neat print-out of the relations (show only the ones that result after conversion to 3NF).

Part 3:

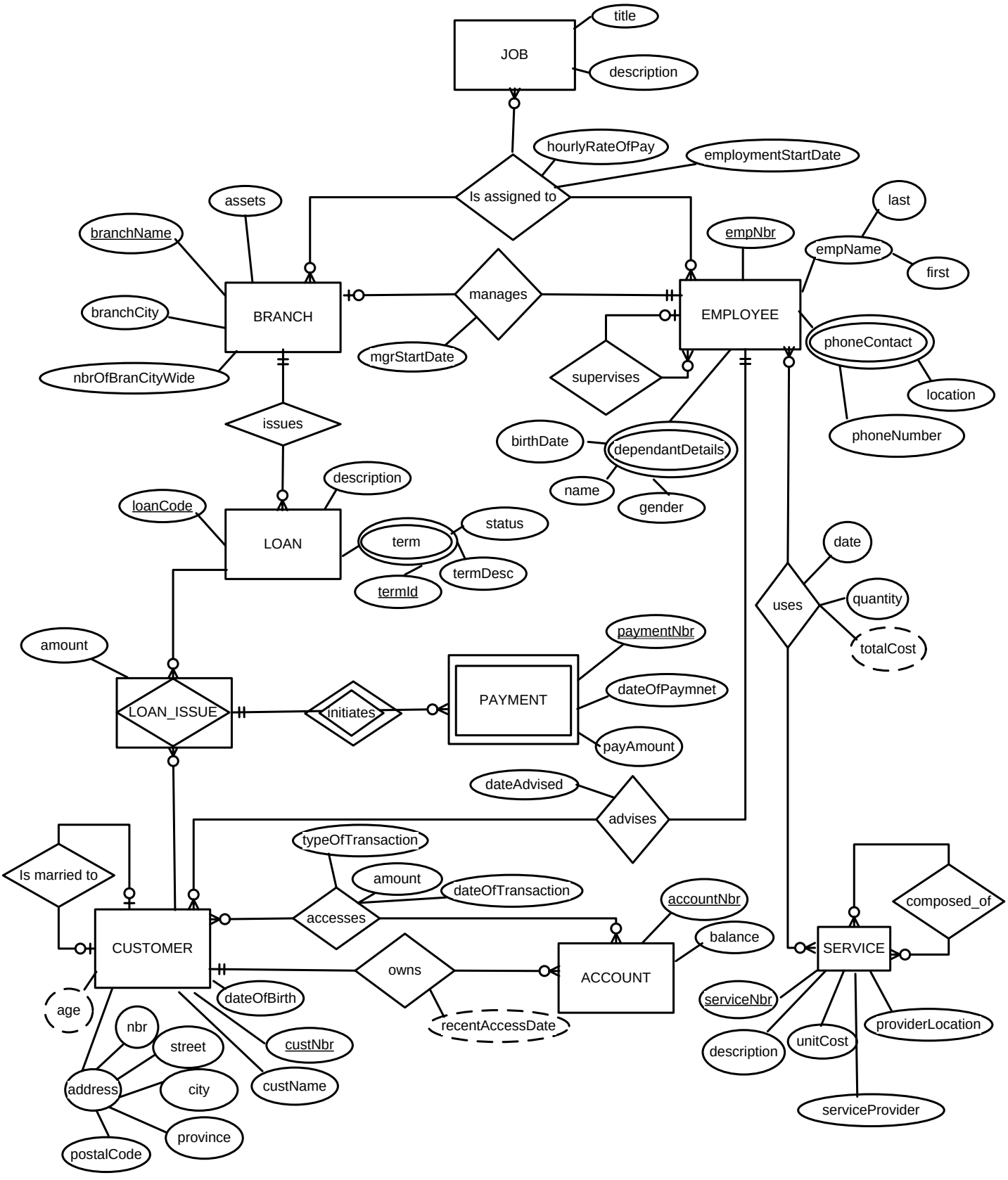
- Write CREATE TABLE commands for each relation for your answer to the above. Make reasonable assumptions concerning the data type and length for each attribute in each of the relations, thus, implementing the database using SQL script file on MySQL server, thus creating tables, fields, primary and foreign keys etc.
- Drop tables at the beginning of the script so that repeated running of the script will re-create them.

The SQL script file named `<your _login_name>.sql` should be submitted. For example, John Smith will name his file as jsmit456.sql.

You will submit the file electronically to BlackBoard.

For all parts, only assignments that follow the instructions will be marked.

The entity and attribute names are self explanatory. It is critical to pay attention to them in order to understand the dependencies. If you have any questions, you may choose to ask.



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