CSCI UA.0060 Fall 2024

Assignment 3 – Normalization

Deliverables

Upload a pdf with the answers to the questions below to the Github repository for this assignment.

Filenames should be FirstInitialLastName-Ass3.pdf. For example, John Smith’s file would be JSmith-Ass3.pdf

Overall Requirements

This assignment will give you more practice on Normalization. There are three exercises. In each one, you must first show all the data in one table. This table might be in 1NF, 2NF or 3NF (unlikely!!) or might not be in a Normal Form at all.

For each exercise, make sure you show each step of the process, including both a graphical view of the data and the specific reasons why each piece of data changes from one step to the next. Don’t just show what the table(s) look like at the end of the process.

In each iteration, make sure that fields that are part of a PK are shown in a bold underlined font. For the 3NF version, make sure that FKs are italicized (including FKs that are also part of a PK).

Specific Requirements

1. The following is a handwritten Parts Order Form for a local Supply company. You can assume that employees help any and all different customers, i.e. there is no special relationship between specific employees and customers. A cage code is the identifier of the cages (or shelves) that the inventory is stored in.

The plan is to replace the manual processes at the company with an application and database.

Answer the questions shown below:



* 1. State any assumptions that you make about the data and the attributes shown.
  2. Describe and illustrate the process of normalizing the attributes shown in this form.
  3. Identify the primary keys at each step of the normalization process and both the primary and foreign keys in your 3NF relations.
  4. Ensure that the 3NF relations are named.

Please note that you should not add any additional fields when performing the normalization process, including surrogate keys.

The names of all the relations and attributes must conform to the class naming convention, including use of case and singularity.

1. The data shown below is used by the Panacea Mental Health Corporation to track its therapists. Therapists may work at a number of different branches, but they only see patients at one specific branch on any given day. A patient is given an appointment at a specific time and date at a particular branch with one therapist. Patients may have multiple appointments in any given day and with multiple different therapists.



* 1. State any assumptions you make about the data and the attributes shown in this table.
  2. Describe and illustrate the process of normalizing the table to 3NF relations.
  3. Identify the primary keys at each step of the normalization process and both the primary and foreign keys in your 3NF relations.
  4. Ensure that the 3NF relations are named.

1. The Maid Better temp agency supplies help to Event Management companies within the New York area . Below is the data that the company uses to track employee hours against different contracts. The Employee Number (eNo) is unique for each member of staff. Each contract only applies to one event. There may be different contracts for an event depending upon different service needs.



* 1. State any assumptions you make about the data and the attributes shown in this table.
  2. Describe and illustrate the process of normalizing the table to 3NF relations.
  3. Identify the primary keys at each step of the normalization process and both the primary and foreign keys in your 3NF relations.
  4. Ensure that the 3NF relations are named.

Grading Rubric

See Brightspace for Grading Rubric