CSCI UA.0060 Spring 2025

Assignment 4 – Create and Populate Database

Deliverables

Upload the following file to your Github repository for this assignment.

A SQL file, created using the MySQL Data Export function

Filename should be FirstInitialLastName-Assign4.sql. For example, John Smith's deliverable would be JSmith-Assign4.sql

Overall Requirements

This is a two-part assignment. First, you must create a MySQL database using the schema in your Github repository and then populate each of the tables with data.

Beyond being able to create tables and enter data, the purpose of this assignment is to make sure you:

1) Think about specifying the right data types for each attribute. Values that are likely to be used as keys or calculations should be one of the numeric types. All other fields (perhaps those with numbers in) should be one of the text types or dates.
2) Understand the relationship between the data in different tables and see the database holistically. For example, if there is a task to prepare 100 food packages, it would not make sense for the items included in the corresponding packages to include toys or aspirin.

Business Description

United Helpers is a non-profit organization that provides aid to people after natural disasters.

Volunteers carry out the tasks of the organization. The name, address and telephone number are tracked for each volunteer. Each volunteer may be assigned to several tasks and some tasks may require many volunteers. A volunteer might be in the system without having been assigned a task yet and it is possible to have tasks with no one assigned. When a volunteer is assigned to a task, the system should track the start and end time of the assignment.

Each task has a task code, task description, task type and task status. For example, there may be a task with task code "101", description of "answer the telephone", a type of "recurring" and

a status of “ongoing” or code “102”, description “prepare 5,000 packages”, type “packing” and status “open”.

For each task with a type of “packing”, there is a packing list that describes the contents of the packages. There are many different types of packages, such as “basic medical”, “child-care” and “food”. Each packing list has an ID number, a packing list name and a package list description. Each packing task is associated with only one packing list. A packing list must be associated with at least one task and could be associated with many.

Packing tasks result in the creation of packages. Each individual package is given its own id and is tracked. The date the package was created and its weight are recorded. Each package is associated with only one task. Some tasks (such as “answer the phone”) will not produce any packages, while others (such as “prepare 5,000 packages”) will be associated with many packages.

Package lists contain the list of items in each package. A package can contain many different items and a given item may be used in many different packages.

Each item that the organization provides has an item ID number, item description, item value and quantity on hand. The quantity of each item included in a package must be recorded. It is possible for the organization to have items that have not yet been included in any package, but every package must have at least one item.

Purpose of Database Tables

In case it is not clear to you what the different tables are used for, the following should be helpful:

1) The packing_list table is used to give instructions as to how to complete a packing task. For example, if a task is to prepare 5,000 packages, the corresponding packing_list record might say “2,000 medical packages, 2,000 food packages and 1,000 child-care packages are needed. Make sure the food packages do not include any meat.”

2) The package_type table is used to describe the type of a specific package. In the Business Description, three examples of types were listed - “basic medical”, “child-care” and “food”.

3) The package_contents table is used to list the items that are packed in specific packages. For example, one package might contain 10 toys and 5 dolls.

For more information about these tables and the other tables, please refer to the Business Description.

Specific Requirements

1) Make sure that the database name that you use only has lowercase characters and no spaces. Not doing so may cause the Data Export to fail.
2) Each table must be created with the attributes specified in the schema. It is not acceptable to change the names of tables or attributes in any way, nor to add additional attributes (even if you think they may be warranted).
3) The primary keys must be inserted based upon the schema specification
4) Relationships must be set up based upon the schema specification
5) Attributes should be configured appropriately as NULL or NOT NULL
6) Where appropriate, primary keys should be set up as Auto-Increment.
7) Each table except for task_type, task_status, package_type and packing_list must have at least 10 rows.
8) Data values, that you insert, must reflect the United Helpers business. It is not OK to just put in things like task 1, task 2, task 3.
9) Remember that you should only have packages and packing lists associated with packing tasks.
10) The database must reflect:
    a. At least 2 volunteers assigned to multiple tasks
    b. At least 2 tasks with multiple packages
    c. At least 2 packages with multiple items
11) To produce the deliverable:
    a. In MySQL Workbench, select Server/Data Export
    b. Select the United Helpers database
    c. Under export options, select export to Self-Contained File.
    d. Enter a file location of your choice.
    e. Make sure the file name is correct for this deliverable.
    f. Click on Start Export.

Grading Rubric

See Brightspace for Grading Rubric

Students may be given extra points for delivering outstanding work that goes beyond the stated requirements.