Project for

CSE 311

Project name:

Donation and Fundraising

Submitted by:

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Contents

DB Planning

Database planning is the first stage of database application life cycle. In this stage we plan for collecting requirements, analysis, design, implementation and testing of a database. We may find many errors while making the database.

Reason behind doing this project: There are so many troubles we might face while collecting the donation and keeping the details of the donor in the memory of all the data and write them out. There are also chances of losing the data.

The plan we made which will remove the problem: The idea of our project is to collect and keep the data of what the donor donates and give them a receipt. We will collect all the details of volunteers, donations in a database as a record, and in which campaign is held.

In our system, a ***campaign*** will be arranged and there will be some ***volunteers***. In that campaign, the ***donor*** will donate the money. All the information of the ***donor*** will be recorded. Then we will give some information to the ***donor*** with a ***receipt.*** All the information on ***donor*** and ***receipt*** will be stored at the ***donation***.

Requirement Analysis

Requirement collection is the process of collection and analysis the requirements of the database by understanding the scope and boundaries of the database application and major user views. User views refers to the perspective of particular user usage and analysis involves finding what and how.

In this part, we need to go through three steps. i) conceptual design, ii) logical design, and iii) physical design. After determining conceptual design and logical design, we decided to implement it in MySQL.

Reason behind choosing MySQL: MySQL is multithreaded, multi user SQL database management System (DBMS). The basic program run as server providing multiuser access to a number of databases. The project's source code is available under terms of the GNU General Public License, as well as under a variety of property arguments. MySQL is a database. The data in a MySQL is stored in a Database objects called tables. A table is a collection of related data entries and it consists of columns and rows. The databases are useful when storing information categorically.

To make the project done, we need some software to implement it. Firstly, we need to install MySQL libraries with MySQL Workbench on our PC. Then, we use www.draw.io to make the ER diagram of our first design. Later, we need MySQL Workbench to make the schema, tables, write the all queries and implement it. At last we need to do Reverse Engineering to get the automated ER-Diagram.

Software specification

- MySQL Libraries
- MySQL Workbench 8.0 CE
- draw.io
- Operating system: Windows10

draw.io

Windows 10

Database Design

Database design process of creating a design for a database that will support the enterprise operations and objectives.

To design our database, we need to select the attribute first, then we will determine the relation between them.

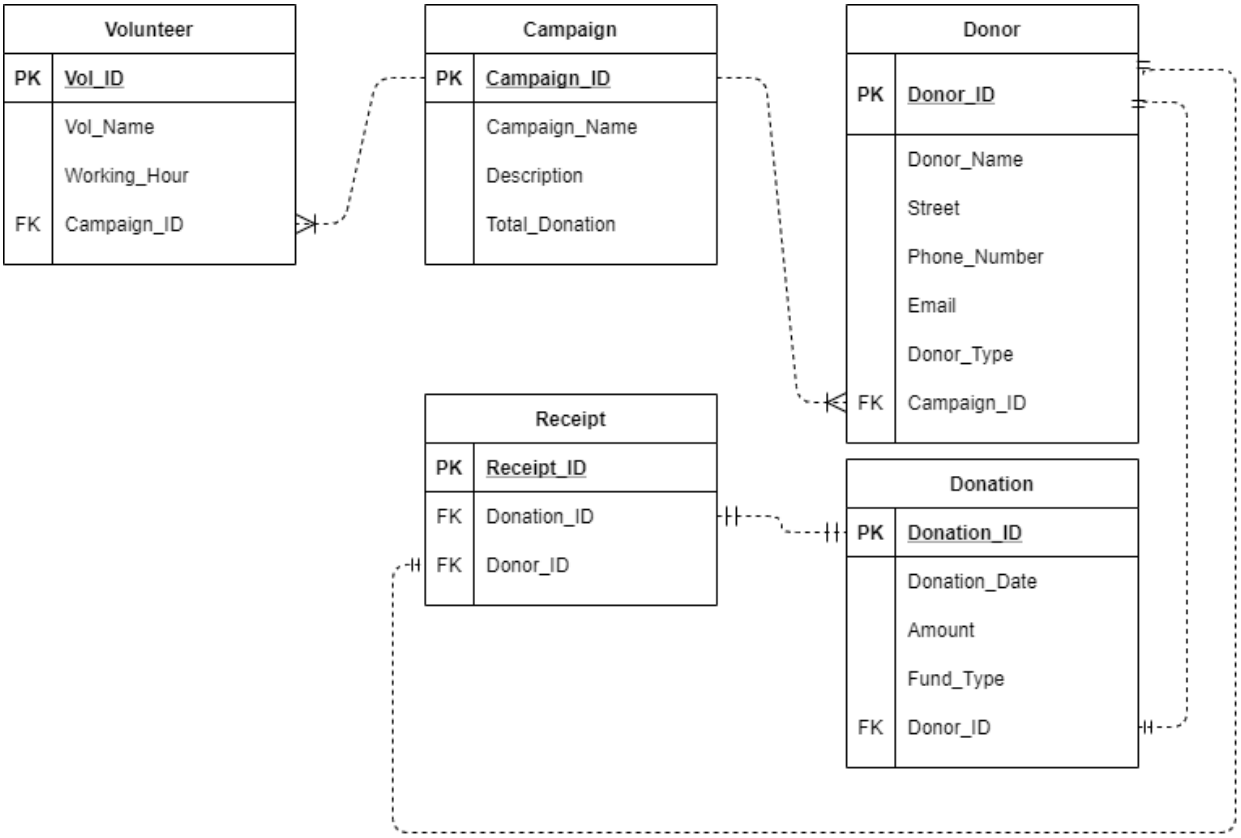
Following the DB Planning part, we will have five attributes, i.e. i) campaign, ii) volunteer, iii) donor, iv) donation, v) receipt.

We talked about the process in the DB planning part. Now let's talk about the relationship between them. There are five Primary Key (PK) for the Attributes which are uniquely identified by the IDs. I.e. i) campaign_ID, ii) donor_ID, iii) volunteer_ID, iv) donation_ID, v) receipt_ID.

Many ***volunteers*** will be at one ***campaign*** so this is **many to one** relationship.
Many ***donors*** will be at ***campaign*** so this is **many to one** relationship as well.
Each ***donor*** makes a ***donation*** so that's **one to one** relationship.
Each ***donor*** gets a ***receipt***, so that again is **one to one** relationship.
There is a separate relation on ***Donation*** and ***Receipt,*** so that's **one to one** relationship.

There is a primary key called Campaign_ID which can be accessed as Foreign key in Donor and Volunteer tables. Donor_ID primary key can be accessed as Foreign key in the Donation and Receipt tables. The Donation_ID primary key can be accessed as Foreign key in Receipt table.

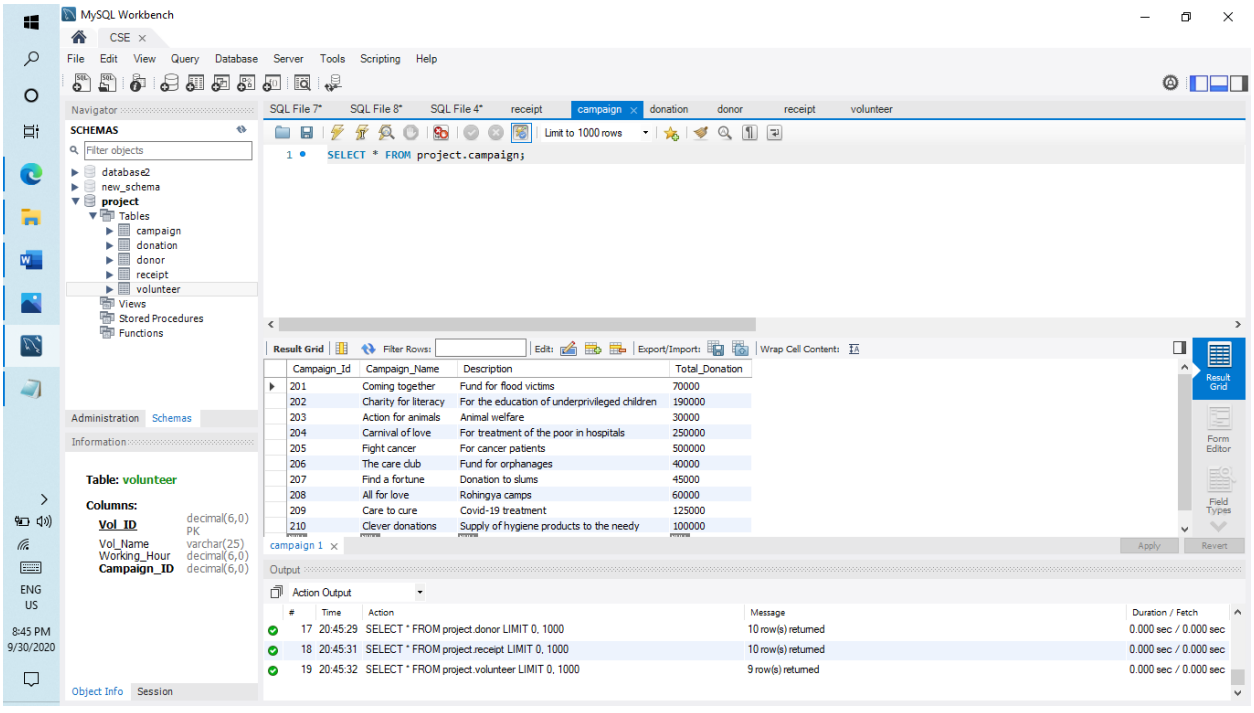
Entity Relationship Model

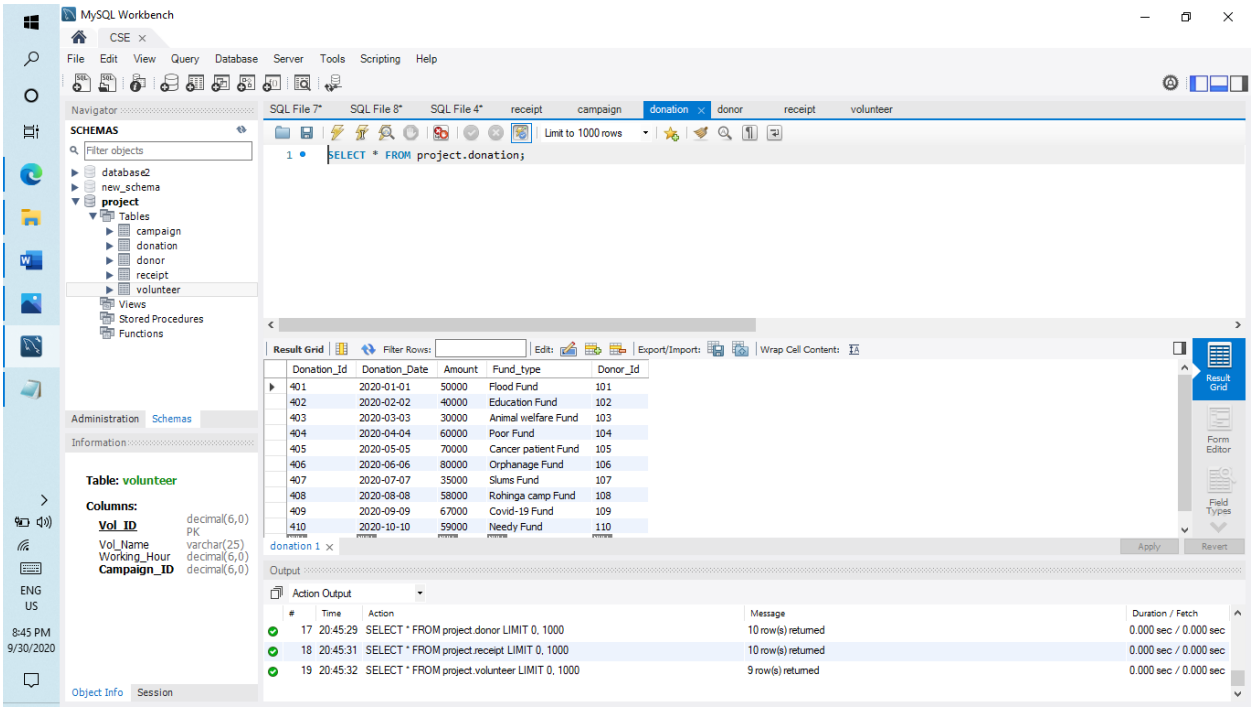


Database Implementation

**Kindly check the .txt file to see the queries

Tables are shown below-




MySQL Workbench
CSE
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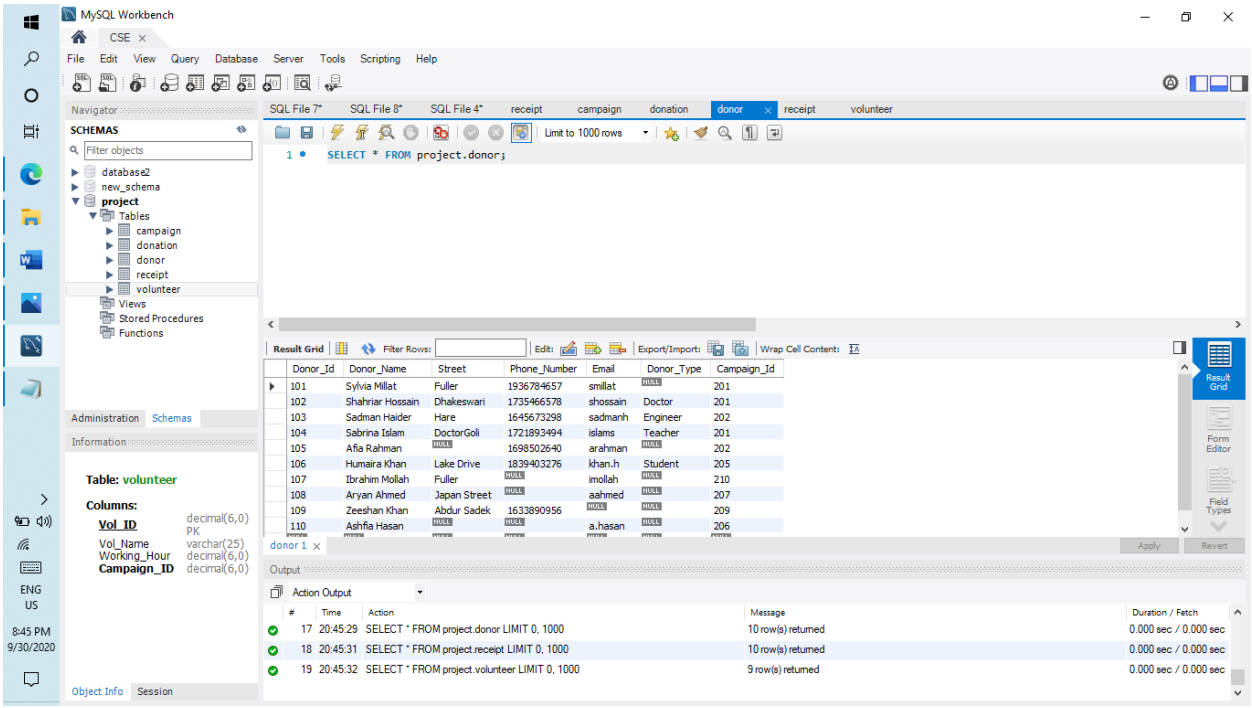
database2
new_schema
project
Tables
campaign
donation
donor
receipt
volunteer
Views
Stored Procedures
Functions
Administration Schemas
Information
Table: volunteer
Columns:
Vol_ID decimal(6,0) PK
Vol_Name varchar(25)
Working_Hour decimal(6,0)
Campaign_ID decimal(6,0)
Object Info Session
SQL File 7* SQL File 8* SQL File 4* receipt campaign donation donor receipt volunteer
Limit to 1000 rows
1 • SELECT * FROM project.donation;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
Donation_Id Donation_Date Amount Fund_type Donor_Id
401 2020-01-01 50000 Flood Fund 101
402 2020-02-02 40000 Education Fund 102
403 2020-03-03 30000 Animal welfare Fund 103
404 2020-04-04 60000 Poor Fund 104
405 2020-05-05 70000 Cancer patient Fund 105
406 2020-06-06 80000 Orphanage Fund 106
407 2020-07-07 35000 Slums Fund 107
408 2020-08-08 58000 Rohinga camp Fund 108
409 2020-09-09 67000 Covid-19 Fund 109
410 2020-10-10 59000 Needy Fund 110
donation 1
Apply Revert
Output
Action Output
Time Action Message Duration / Fetch
17 20:45:29 SELECT * FROM project.donor LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
18 20:45:31 SELECT * FROM project.receipt LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
19 20:45:32 SELECT * FROM project.volunteer LIMIT 0, 1000 9 row(s) returned 0.000 sec / 0.000 sec
ENG US
8:45 PM
9/30/2020


MySQL Workbench
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Views
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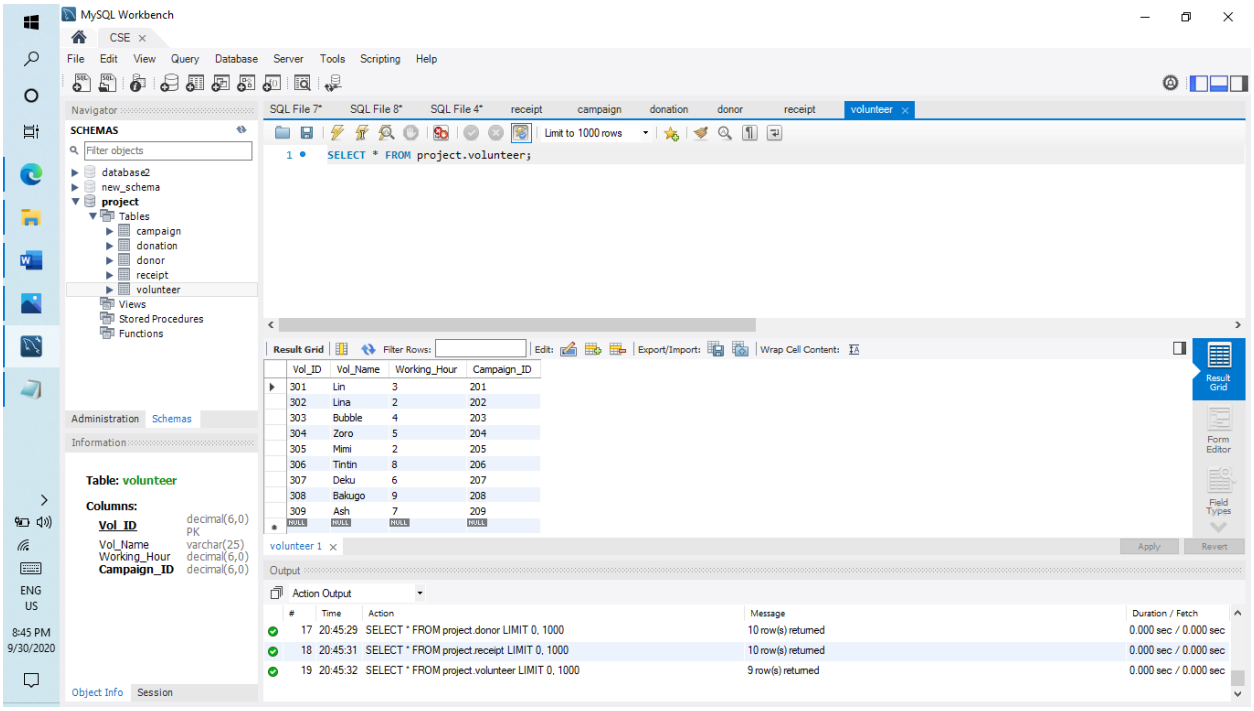
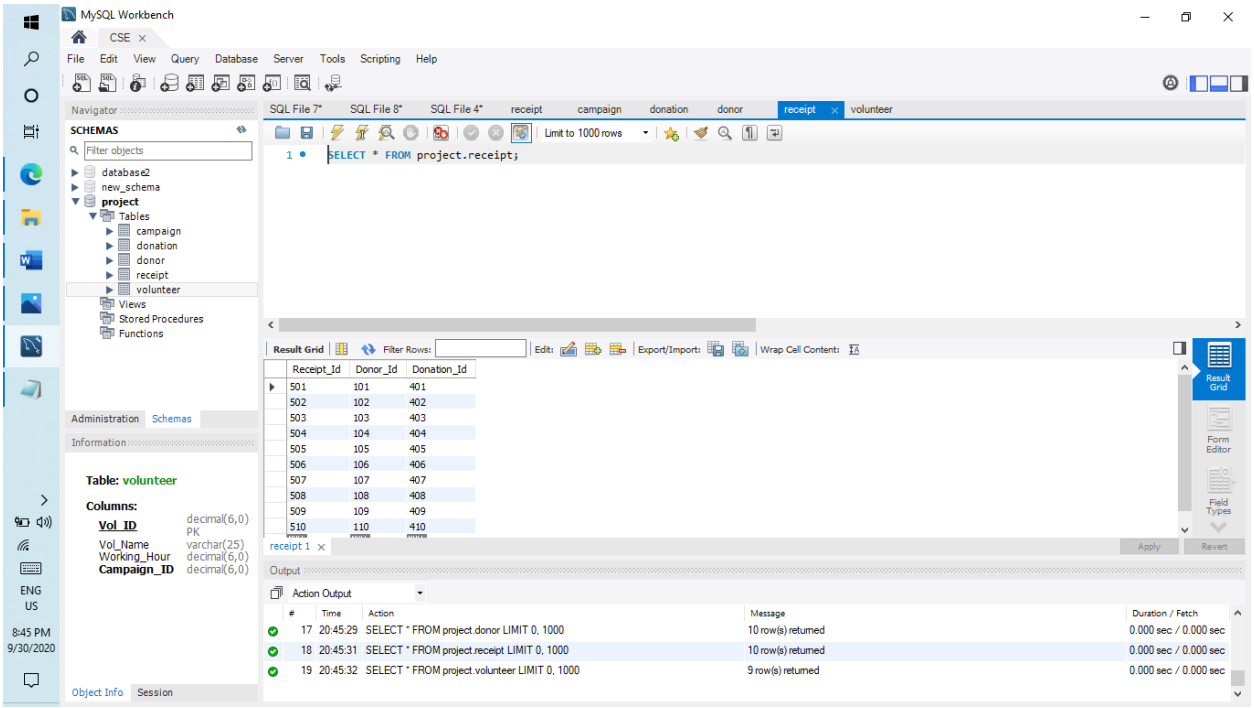
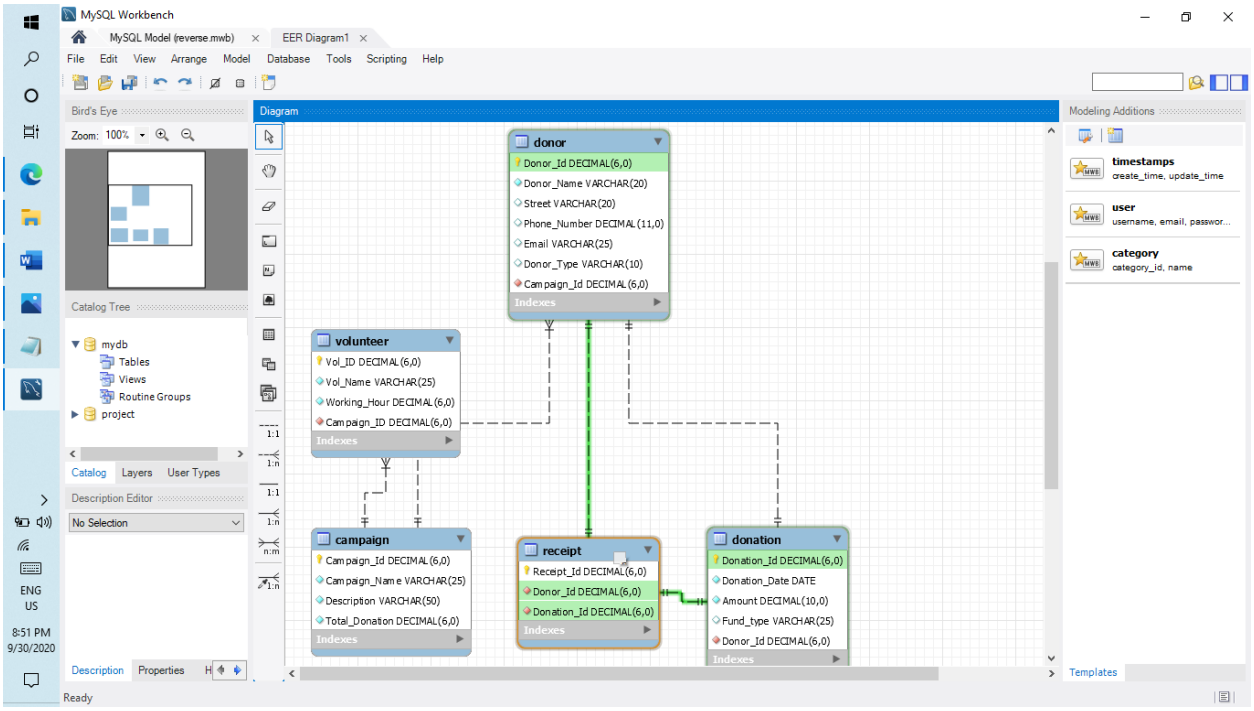
Information
Table: volunteer
Columns:
Vol_ID decimal(6,0) PK
Vol_Name varchar(25)
Working_Hour decimal(6,0)
Campaign_ID decimal(6,0)
Object Info Session
SQL File 7* SQL File 8* SQL File 4* receipt campaign donation donor receipt volunteer
Limit to 1000 rows
1 • SELECT * FROM project.donor;
Result Grid Filter Rows: Edit: Export/Import: Wrap Cell Content:
Donor_Id Donor_Name Street Phone_Number Email Donor_Type Campaign_Id
101 Sylvia Millat Fuller 1936784657 smillat NULL 201
102 Shahriar Hossain Dhakeswari 1735466578 shossain Doctor 201
103 Sadman Haider Hare 1645673298 sadmanh Engineer 202
104 Sabrina Islam DoctorGoli 1721893494 islams Teacher 201
105 Afia Rahman NULL 1698502640 arahman NULL 202
106 Humaira Khan Lake Drive 1839403276 khan.h Student 205
107 Ibrahim Mollah Fuller NULL imollah NULL 210
108 Aryan Ahmed Japan Street NULL aahmed NULL 207
109 Zeeshan Khan Abdur Sadek 1633890956 NULL NULL 209
110 Ashfia Hasan NULL NULL a.hasan NULL 206
donor 1
Apply Revert
Output
Action Output
Time Action Message Duration / Fetch
17 20:45:29 SELECT * FROM project.donor LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
18 20:45:31 SELECT * FROM project.receipt LIMIT 0, 1000 10 row(s) returned 0.000 sec / 0.000 sec
19 20:45:32 SELECT * FROM project.volunteer LIMIT 0, 1000 9 row(s) returned 0.000 sec / 0.000 sec
ENG US
8:45 PM
9/30/2020





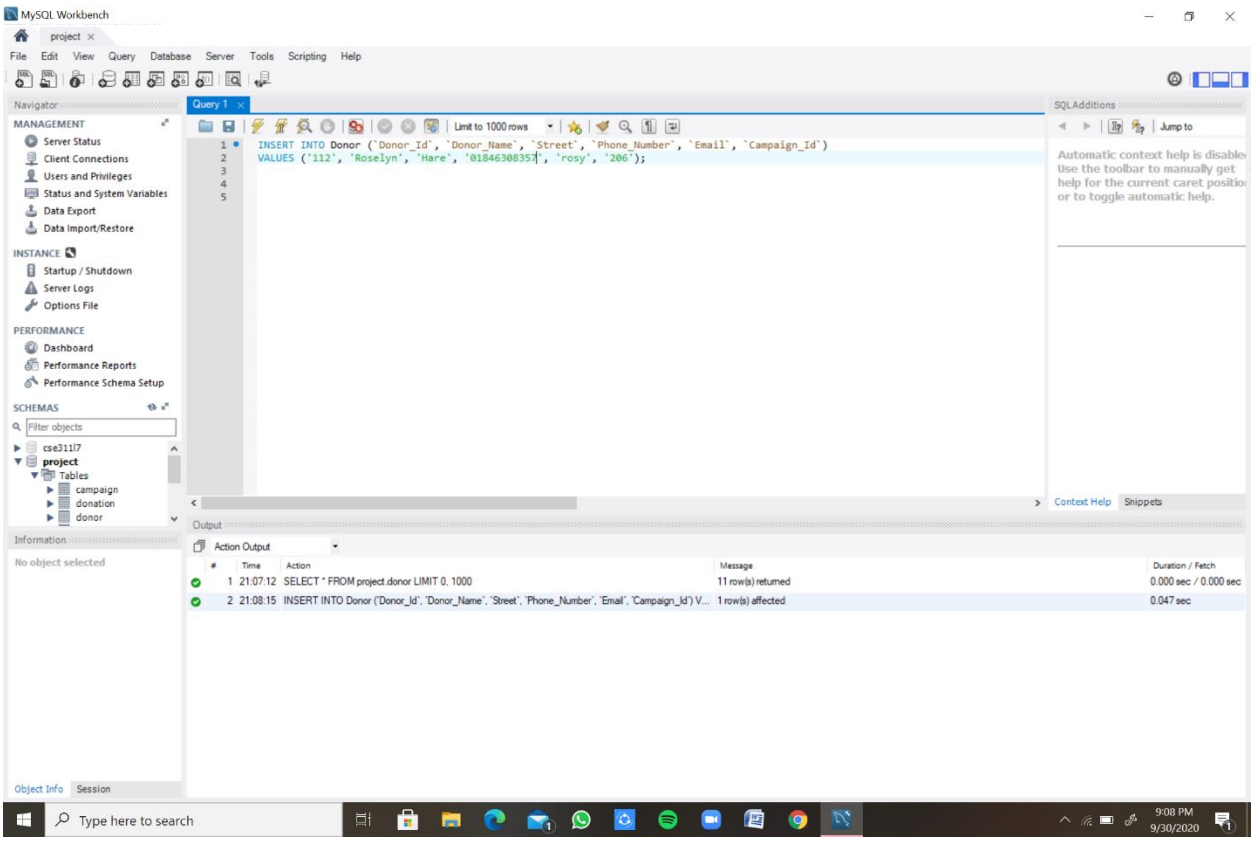
Reverse engineering part is shown below-

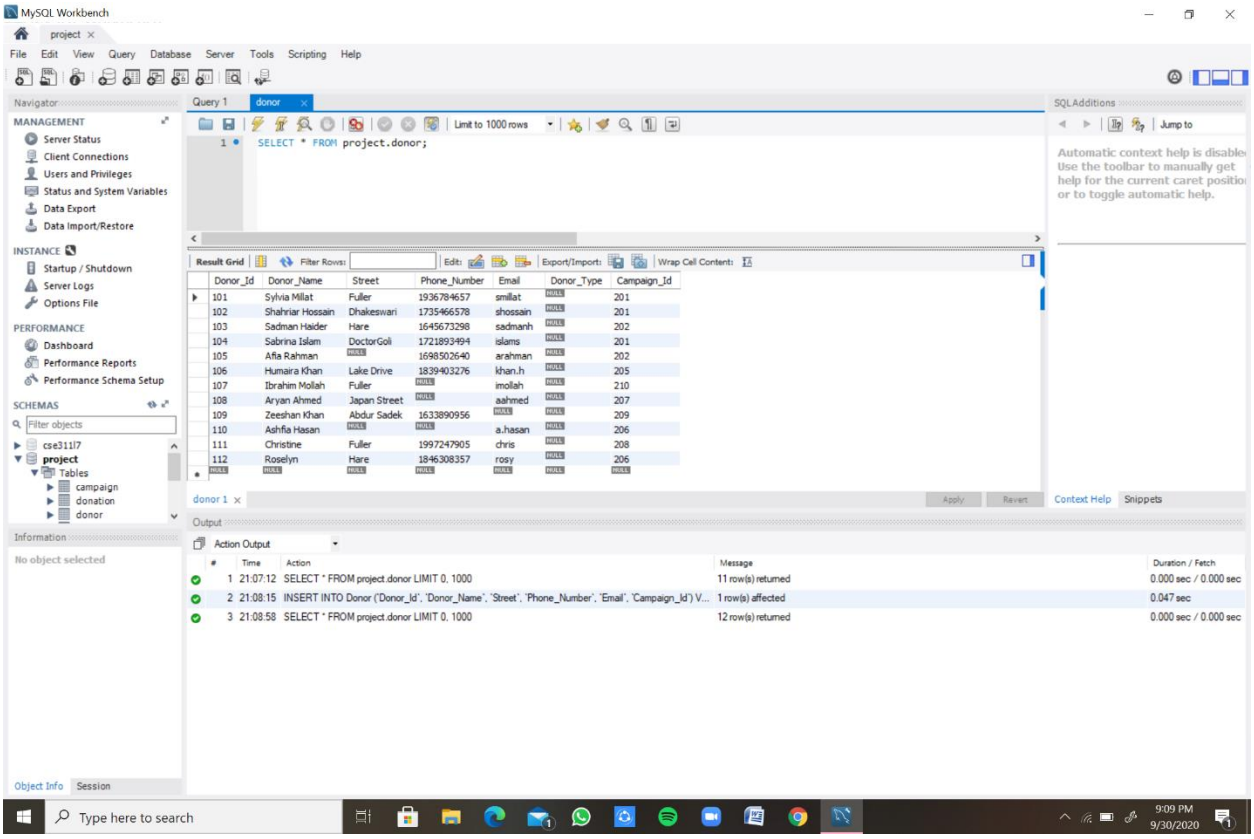

MySQL Workbench
MySQL Model (reverse.mwb)
EER Diagram1
File Edit View Arrange Model Database Tools Scripting Help
Bird's Eye
Zoom: 100%
Catalog Tree
mydb
Tables
Views
Routine Groups
project
Catalog Layers User Types
Description Editor
No Selection
Description Properties
Diagram
donor
Donor_Id DECIMAL(6,0)
Donor_Name VARCHAR(20)
Street VARCHAR(20)
Phone_Number DECIMAL(11,0)
Email VARCHAR(25)
Donor_Type VARCHAR(10)
Campaign_Id DECIMAL(6,0)
Indexes
volunteer
Vol_ID DECIMAL(6,0)
Vol_Name VARCHAR(25)
Working_Hour DECIMAL(6,0)
Campaign_ID DECIMAL(6,0)
Indexes
campaign
Campaign_Id DECIMAL(6,0)
Campaign_Name VARCHAR(25)
Description VARCHAR(50)
Total_Donation DECIMAL(6,0)
Indexes
receipt
Receipt_Id DECIMAL(6,0)
Donor_Id DECIMAL(6,0)
Donation_Id DECIMAL(6,0)
Indexes
donation
Donation_Id DECIMAL(6,0)
Donation_Date DATE
Amount DECIMAL(10,0)
Fund_type VARCHAR(25)
Donor_Id DECIMAL(6,0)
Indexes
Modeling Additions
timestamps
create_time, update_time
user
username, email, passwor...
category
category_id, name
Templates
Ready
ENG
US
8:51 PM
9/30/2020

Testing

To test our database, we need to do three parts i.e.
i) INSERT, ii) UPDATE, and iii) DELETE

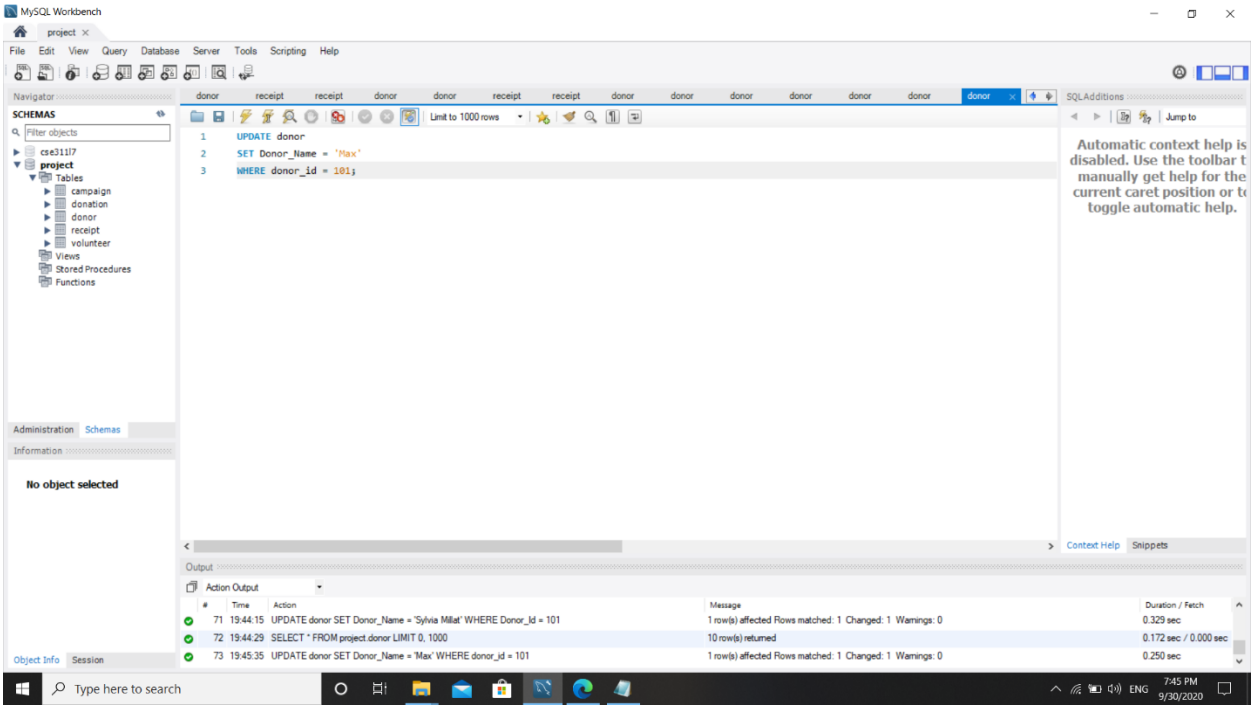
Insertion part:

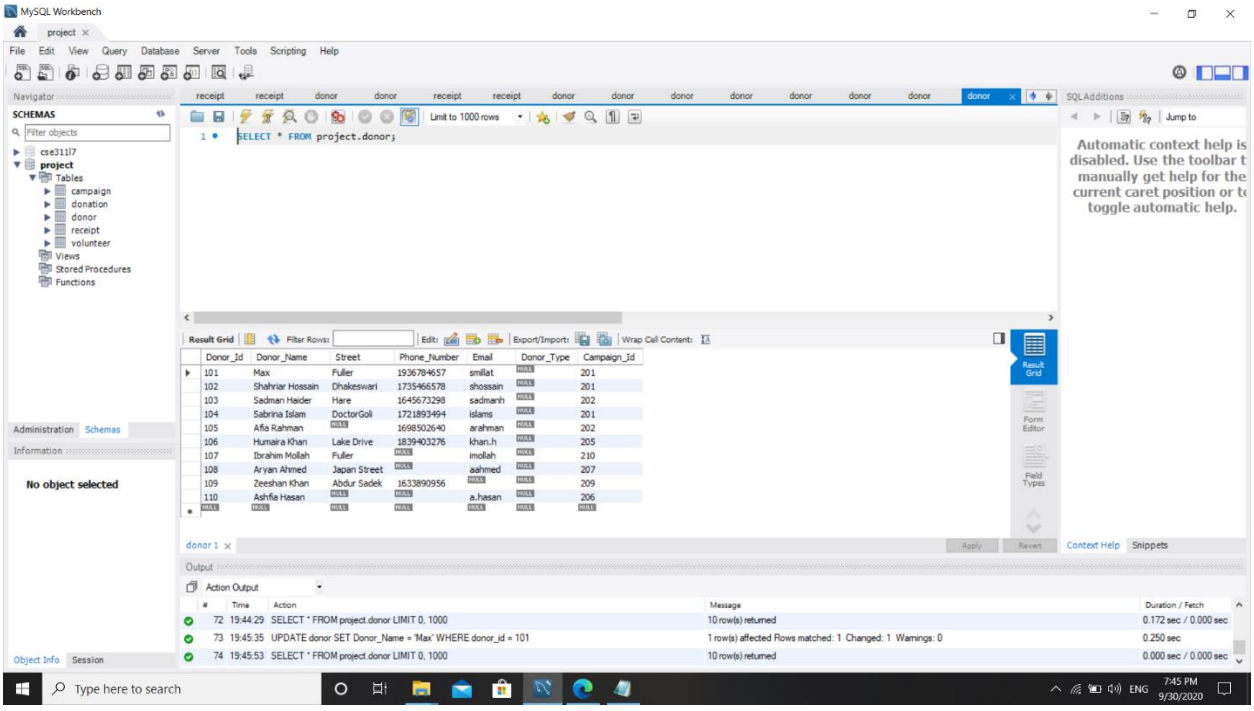




We see, it’s successfully inserted.

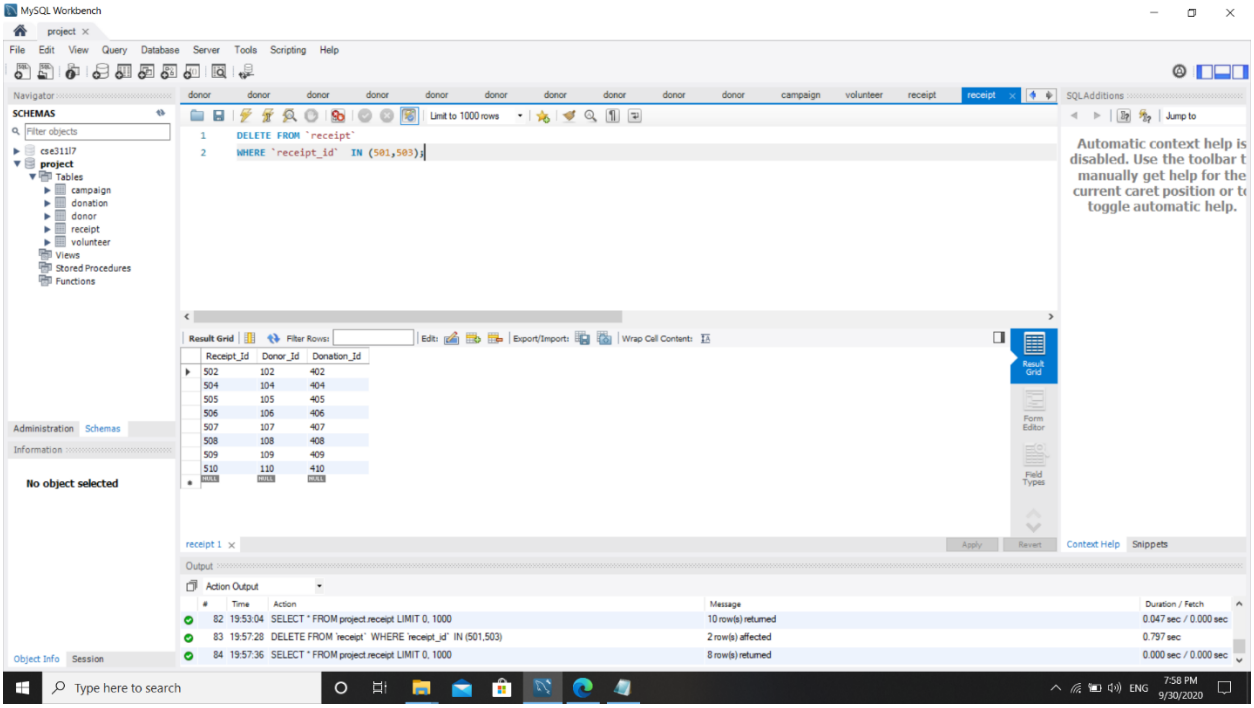
Updating part:





We see, it’s successfully updated.

Deleting part:



We see, it’s successfully deleted.