

Project - Data Design and Implementation

Group 71

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Assumptions

- Data Type Constraints

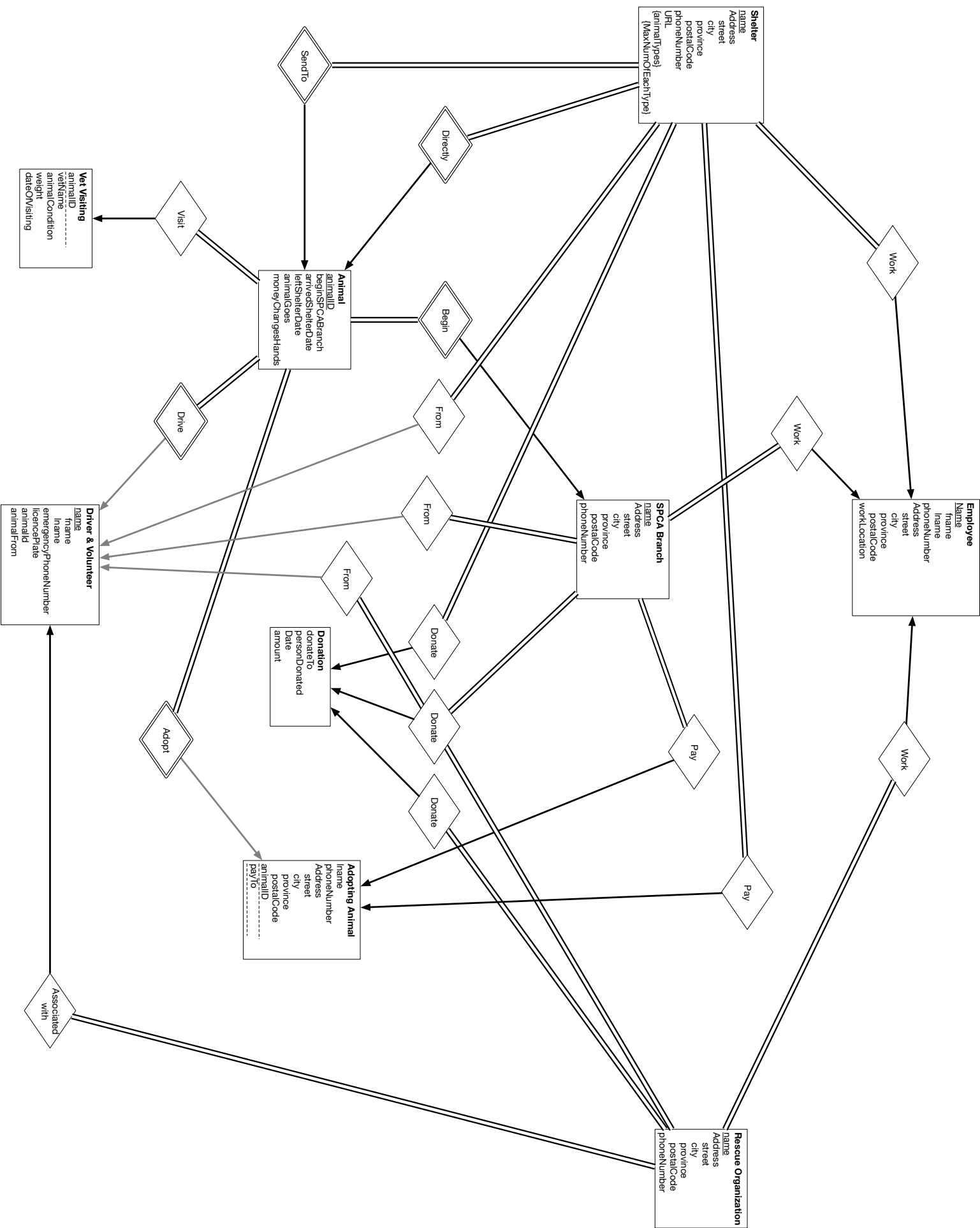
Data Type	Requirement
First and Last Name	50 characters each
Phone Number, License Plate	10 characters
Street, City, Province	100 characters each
Postal Code	6 characters
Locations	50 characters
URL	8000 characters
ID Number	8 characters
Date	SQL Date Format
Monetary	Integers
Animal Condition	20 characters
Animal Weight	10 characters
Animal Type	100 characters
Max Number of Animals	100 characters

- Relational Assumptions

- We assume that, in the Donations table, one donor can only donate to one organization. In this sense, we consider that a donor donates to the rescue organization.
- We assume that, in the Employee table, one employee can only work in one organization. In this sense, we consider that an employee work in the SPCA branches.
- We assume that, in the Adopting animals table, one adopter can only pay to one organization. In this sense, we consider that an adopter pays to the shelters.
- We assume that, in the Drivers and volunteers table, an animal can only come from one organization. In this sense, we consider that an animal comes from the SPCA branches.

ER Schema

Included in the next page.



DDL for Relational Schema (File Name: RelationalSchema.sql)

```
1 USE project;
2 CREATE TABLE SPCABranches(
3     NAME VARCHAR(50) NOT NULL,
4     phoneNumber CHAR(10),
5     street VARCHAR(100),
6     city VARCHAR(100),
7     province VARCHAR(100),
8     postalCode CHAR(6),
9     PRIMARY KEY(NAME)
10 );
11 CREATE TABLE Shelters(
12     NAME VARCHAR(50) NOT NULL,
13     phoneNumber CHAR(10),
14     street VARCHAR(100),
15     city VARCHAR(100),
16     province VARCHAR(100),
17     postalCode CHAR(6),
18     URL VARCHAR(8000),
19     PRIMARY KEY(NAME)
20 );
21 CREATE TABLE RescueOrganization(
22     NAME VARCHAR(50) NOT NULL,
23     phoneNumber CHAR(10),
24     street VARCHAR(100),
25     city VARCHAR(100),
26     province VARCHAR(100),
27     postalCode CHAR(6),
28     PRIMARY KEY(NAME)
29 );
30 CREATE TABLE Donations(
31     donateTo VARCHAR(50) NOT NULL,
32     personDonated VARCHAR(50),
33     DATE DATE,
34     amount INTEGER,
35     FOREIGN KEY(donateTo) REFERENCES RescueOrganization(NAME)
36 );
37 CREATE TABLE Employee(
38     fname VARCHAR(50) NOT NULL,
39     lname VARCHAR(50) NOT NULL,
40     phoneNumber CHAR(10),
41     street VARCHAR(100),
42     city VARCHAR(100),
43     province VARCHAR(100),
44     postalCode CHAR(6),
45     workLocation VARCHAR(50) NOT NULL,
46     PRIMARY KEY(fname, lname),
47     FOREIGN KEY(workLocation) REFERENCES SPCABranches(NAME)
48 );
49 CREATE TABLE Animals(
50     animalID CHAR(8) NOT NULL,
51     beginSPCABranch VARCHAR(50) NOT NULL,
52     arrivedShelterDate DATE,
53     leftShelterDate DATE,
54     animalGoes VARCHAR(50) NOT NULL,
55     moneyChangesHands INTEGER,
56     PRIMARY KEY(animalID),
57     FOREIGN KEY(beginSPCABranch) REFERENCES SPCABranches(NAME),
58     FOREIGN KEY(animalGoes) REFERENCES Shelters(NAME)
59 );
```

```

60 CREATE TABLE adoptingAnimals(
61     lname VARCHAR(50) NOT NULL,
62     phoneNumber CHAR(10),
63     street VARCHAR(100),
64     city VARCHAR(100),
65     province VARCHAR(100),
66     postalCode CHAR(6),
67     amount INTEGER,
68     animalID CHAR(8) NOT NULL,
69     payTo VARCHAR(50) NOT NULL,
70     FOREIGN KEY(payTo) REFERENCES Shelters(NAME),
71     FOREIGN KEY(animalID) REFERENCES Animals(animalID)
72 );
73 CREATE TABLE driversAndVolunteers(
74     fname VARCHAR(50) NOT NULL,
75     lname VARCHAR(50) NOT NULL,
76     emergencyPhoneNumber CHAR(10),
77     licencePlate VARCHAR(10),
78     animalId CHAR(8) NOT NULL,
79     animalFrom VARCHAR(50) NOT NULL,
80     PRIMARY KEY(fname, lname),
81     FOREIGN KEY(animalFrom) REFERENCES SPCABranches(NAME),
82     FOREIGN KEY(animalID) REFERENCES Animals(animalID)
83 );
84 CREATE TABLE VetsVisiting(
85     animalID CHAR(8) NOT NULL,
86     vetName VARCHAR(50) NOT NULL,
87     animalCondition VARCHAR(20) NOT NULL,
88     weight VARCHAR(10) NOT NULL,
89     dateOfVisiting DATE NOT NULL,
90     FOREIGN KEY(animalID) REFERENCES Animals(animalID) ON DELETE CASCADE
91 );
92 CREATE TABLE animalTypes(
93     TYPE VARCHAR(100),
94     PRIMARY KEY(TYPE)
95 );
96 CREATE TABLE maxNumOfEachType(
97     maxNum VARCHAR(100),
98     PRIMARY KEY(maxNum)
99 );

```

Sample Data Set (File Name: SampleData.ddl)

```
1 -- Inserting data to SPCABranches table
2 Insert into SPCABranches values ("First SPCA Branch", "111111111", "25 Union St W", "
   Kingston", "Ontario", "K7L2N8");
3
4 -- Inserting data to Shelters table
5 Insert into Shelters values ("First Shelter", "5555555555", "24 Union St W", "Kingston"
   , "Ontario", "K7L2N8", "http://cs.queensu.ca");
6
7 -- Inserting data to RescueOrganization table
8 Insert into RescueOrganization values ("First Rescue Organization", "6666666666", "26
   Union St W", "Kingston", "Ontario", "K7L2N8");
9
10 -- Inserting data to Donations table
11 Insert into Donations values ("First Rescue Organization", "Tony Smith", 05/01/2019,
   111);
12
13 -- Inserting data to Employee table
14 Insert into Employee values ("John", "Smith", "2222222222", "21 Union St W", "Kingston"
   , "Ontario", "K7L2N8", "First SPCA Branch");
15
16 -- Inserting data to Animals table
17 Insert into Animals values ("A1B2C3D4", "First SPCA Branch", 03/02/2018, 03/03/2019, "
   First Shelter", 222);
18
19 -- Inserting data to adoptingAnimals table
20 Insert into adoptingAnimals values ("Smith", "7777777777", "27 Union St W", "Kingston",
   "Ontario", "K7L2N8", 444, "A1B2C3D4", "First Shelter");
21
22 -- Inserting data to driversAndVolunteers table
23 Insert into driversAndVolunteers values ("Lucy", "Smith", "8888888888", "IBMFBI", "
   A1B2C3D4", "First SPCA Branch");
24
25 -- Inserting data to VetsVisiting table
26 Insert into VetsVisiting values ("A1B2C3D4", "Jenny Smith", "Good", "78kg", 05/02/2018)
   ;
27
28 -- Inserting data to animalTypes table
29 Insert into animalTypes values ("cat");
30
31 -- Inserting data to maxNumOfEachType table
32 Insert into maxNumOfEachType values ("20");
```