DBMS LAB 07 TASKS

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Note: Write down your commands and errors encountered in a notepad file to be evaluated.

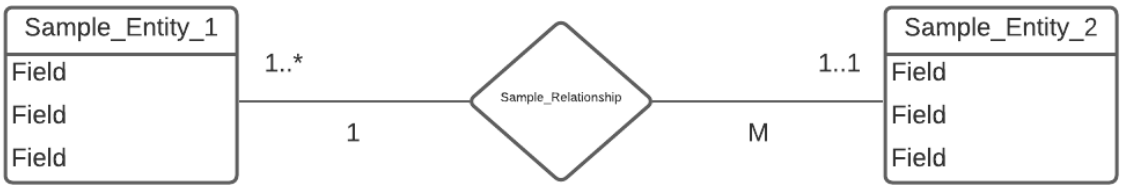
INSTRUCTIONS

Submission Instructions

Your submission should contain the following four files:

1. <student_id>_task1_ERD.pdf/png
2. <student_id>_task1_DDL.txt
3. <student_id>_task2_ERD.pdf/png
4. <student_id>_task2_DDL.txt

ERD Submission Format (The .pdf or .png file content)



DDL Submission Format (The .txt file content)

```
--First note down the reasons why a certain type of relationship exists between two
entities, e.g:
```

1. There is one to many relationship between entity 1 and entity 2 because....
2. There is many to many relationship between entity 2 and entity 3 because...

```
--DDL Statements
CREATE TABLE entity1....
```

```
CREATE TABLE entity2....
```

SCENARIO 1

Bhalo Basha Chai - is a housing agent in Bangladesh like Bikroy.com that publishes advertisements of properties that can be rented. Previously they stored all their information in papers. Recently they have decided to use a database. They have come up with the following requirements:

- There are many branches of Bhalo Basha Chai throughout the country. Each branch is located in a street of a city and has a postcode.
- Many employees work in Bhalo Basha Chai. Upon joining the company, they provide their first name, last name, sex, date of birth. They are also appointed to a position (like manager, salesperson etc) in a specific branch. Their salaries are also recorded for tax purpose.
- Numerous clients rent houses from Valo Basha Chai. Whenever they register on the website, they provide their first name, last name, telephone number, email, preferred accommodation type and the maximum amount of rent they can afford.
- During registration, the client goes to a specific branch. He/she is also assigned a staff member who is their contact person. A client can register in multiple branches.
- Bhalo Basha Chai needs to store information about the property owners who actually own the houses. The owners register on their website by providing their first name, last name, telephone number, email and password.
- Bhalo Basha Chai has multiple houses for rent under them. These houses are denoted by street, city, postcode, type, number of available rooms, rent. Each property is associated with one owner, one contact person who is also a stuff of Bhalo Basha Chai and the branch the staff works in.

- Each client can visit a property multiple times, but not twice in a day. A client can make some comments about the property during his/her visit. The date of his/her visit also needs to be documented.

Your tasks are:

1. Create an ER Diagram with appropriate cardinality. Make sure you specify both the minimum and the maximum cardinality of each entity using the notations shown in the demonstration video. You also have to show what type of relationship it is (one to one, many to one, many to many or one to many). You are free to add attributes to the entities only if needed.
   Make sure to follow the submission format mentioned in the instructions section.

2. Convert the ER Diagram into a relational model using standard SQL. Your submitted txt files should include the reasons why a certain type of relationship exists between two entities. [Make sure to appropriately declare primary key and foreign key constraints.]

SCENARIO 2

Bangladesh Road Transport Authority (BRTA) observes that the number of road accidents are increasing everyday. To mitigate the problem, BRTA plans to automate its vehicle and driving license automation. The system must store the basic information of each vehicle such as vehicle type (i.e.Car,Bus,Truck, Other), date of registration, description of vehicle, color of the vehicle, engine no. We assume each citizen has his/her National ID (NID). Other information of citizen are name, dob, address, contact no. Each vehicle must be registered against one citizen. A citizen may have multiple vehicles and one vehicle can not be shared by multiple citizens. Each citizen may have at most one driving license. Driving license includes information such as date of issue, expire date,blood group. Whenever any road accident occurs it is recorded in the central database of BRTA along with date and time of accident,place of accident, vehicle information, driver information.
Your tasks are as follows:

1. Create an ER Diagram with appropriate cardinality. Make sure you specify both the minimum and the maximum cardinality of each entity using the notations shown in the demonstration video. You also have to show what type of relationship it is (one to one, many to one, many to many or one to many). You are free to add attributes to the entities only if needed.
   Make sure to follow the submission format mentioned in the instructions section.

2. Convert the ER Diagram into a relational model using standard SQL. Your submitted txt files should include the reasons why a certain type of relationship exists between two entities. [Make sure to appropriately declare primary key and foreign key constraints.]