CSE 370– Database Systems

Assignment 1

Summer 2024

Submission Instructions:

1. Write your name, id, section on top of the first page
2. Your answer should be handwritten, take pictures and create a single pdf.
3. **Submit the pdf in the following form**: https://forms.gle/hFxxvg9Q9FxFemTZ7
4. **Submission Deadline**: 1st July 2024 (Monday), 11:59 pm (midnight)
5. **NO LATE SUBMISSION WILL BE ACCEPTED**

Question 1 [10 Marks]

a) Represent the following information using appropriate ER Diagram symbols and identify the different type of attributes necessary:

STUDENT

ID	NAME		CGPA	EMAIL
	Fname	Lname		
S230	Arif	Hossain	3.55	a@bracu.com, a@g.com
S231	Sifat	Ahmed	4.0	s@bracu.com, s@y.com
S232	Nisat	Tasneem	3.99	t@bracu.com
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Question 2 [10 Marks]

You are going to design a management system for an art gallery that organizes various art exhibitions. The requirements for the database are given below.

- Each exhibition event in the gallery has a unique id, theme, title, date, time, artists registration fees and ticket price.
- Each exhibition will display several items. The items will have a unique id, title, description, type, selling price if it is for sale and location within the gallery where it is placed for exhibition. A single item may be displayed in several exhibitions.
- All exhibition items are created by artists. Artists name, phone number, unique email address and date of birth is stored.

- Visitors will purchase tickets for the event. Visitors name, phone number, unique email address and date of birth is stored.
- The visitors can also buy items from the exhibition.

Draw an ER diagram for the art gallery. **Show at least 1 multivalued and 1 composite attribute**. Write down all assumptions(if any).

Question 3 [10 Marks]

A Dog shelter wants to design a database for management and inventory. The requirements are given below.

1. Animals are given shelter in the organization. The id, type, breed, date found are recorded in the database.
2. The animals are divided into three categories based on condition: Pets, Sick, Police dog. Pets have a tag number, name, date of adoption. Sick dogs have medical issues. Medical issues include the following attributes - issue type (where values such as injury or disease will be recorded), date of recording, description, list of medicines. The medicines are composed of name and dosage. Note that the attributes of the medical issues are not guaranteed to be unique. You can assume that on any given date one dog will have only 1 issue recorded, but a dog may have several medical issues in total.
3. Customers can adopt dogs that are reserved for the pet category. The customer's name, national id, phone, address are recorded. A customer may be referred by another customer.
4. The shelter has three types of employees: vets, trainers and administrators.Employee's id, name, phone, email are recorded.
5. Trainers train Police dogs. One trainer can train multiple dogs. Date and time of training is recorded

Draw an **EER** diagram for the dog shelter. Write all assumptions(if any).