CSE 370– Database Systems

Assignment 1

Summer 2024

Section - 15

Submission Instructions:

1. Write your name, id, section on top of the first page
2. Your answer should be handwritten
3. **Submission Deadline**: 6th July, 2024. [Submit physical copy in class]
4. **NO LATE SUBMISSION WILL BE ACCEPTED**

Question 1 [CO1]   [10 Marks]

Represent the following information using ER Diagram symbols and identify the different type of attributes used:

DETECTIVE

id	name	show	age	address	
				city	country
BW1	Bruce Wayne	Batman	35	Gotham	USA
SH2	Sherlock Holmes	Sherlock Season 1, Sherlock Season 2	40	London	England
HL9	Heinrich Lunge	Monster	50	Berlin	Germany
RC0	Rustin Cohle	True Detective	45	Erath	USA

Question 2 [CO2]   [10 Marks]

You are tasked with designing a Music Streaming System where users can listen to a wide variety of music from different artists. The system must meet the following requirements:

a. Each user will have a unique username, full name, email, telephone number, and card information.

b. Users can listen to songs, which have track ID, duration, and play count.

c. Each album contains multiple songs and includes an album name, a unique album ID, a list of contributing artists, a release date, and a genre.

d. Artists have an artist name and artist id. Each artist has a specific role (e.g., singer or composer) associated with their work on an album.

e. Users can create playlists and add songs of their choice to these playlists.

Now, draw an ER diagram of this system. Show **at least 1 composite** attribute.
Write down all assumptions (if any).

Question 3 [CO2]   [10 Marks]

A nursery is developing a database to manage its plants and customers. The system must meet the following requirements:

a. Each plant has a plant id, plant name, genus, price and water limit.

b. The nursery stocks two types of plants: fruit plants and flower plants. A plant can be categorized as a fruit plant, a flower plant, or both. Flower plants have a scent profile and a list of colors.

c. Each flower plant produces flowers. Flowers have a flower ID, petal count, and color.

d. Customers can buy plants. Each customer has a customer id, name, email and address. Customers can refer other customers to the nursery.

e. Customers can create a bouquet of flowers. The flower count and total price for this is kept track of. Bouquets will have a bouquet id.

Now, draw an **EER** diagram of this system. Write down all assumptions (if any).