

ASSIGNMENT # 03

Note:

- This is a **group assignment. (Members allowed = 02)**
- Assignment should be submitted in **hard copy (hand written).**
- Follow the deadline strictly.
- Follow the sample title page for your assignment submission.
- Copied assignments will result in a zero!

Design the EER diagram for the following scenarios/case studies (using Chen or Crow's Foot Notation).

Question # 1:

At a weekend retreat, the entity type PERSON has three subtypes: CAMPER, BIKER, and RUNNER. Draw a separate EER diagram segment for each of the following situations:

- At a given time, a person must be exactly one of these subtypes.
- A person may or may not be one of these subtypes. However, a person who is one of these subtypes cannot at the same time be one of the other subtypes.
- A person may or may not be one of these subtypes. On the other hand, a person may be any two (or even three) of these subtypes at the same time.
- At a given time, a person must be at least one of these subtypes.

Question # 2:

A bank has three types of accounts: checking, savings, and loan. Following are the attributes for each type of account:

- CHECKING: Acct No, Date Opened, Balance, Service Charge
- SAVINGS: Acct No, Date Opened Balance, Interest Rate
- LOAN: Acct No, Date Opened, Balance, Interest Rate, Payment

Assume that each bank account must be a member of exactly one of these subtypes. Using generalization, develop an EER model segment to represent this situation using the traditional EER notation.

Question # 3:

Develop an EER model for the following situation, using the traditional EER subtypes inside supertypes notation, as specified by your instructor: A person may be employed by one or more organizations, and each organization may be the employer of one or more persons. An organization can be an internal organizational unit or an external organization. For persons and organizations, we want to know their ID, name, address, and phone number. For persons, we want to know their birth date, and for organizations, we want to know their budget number. Employee can be permanent employee or may be a part time job holder but at the same time a person can be both. For permanent they have extra bonus and credit while for part time job holder we keep their extra hours. For each employment, we want to know the employment date, termination date, and bonus. Employment of a person by an organization may result in the person holding many positions over time. For each position, we want to know its title, and each time someone holds that position, we need to know the start date and termination date and salary. An organization is responsible for each position. It is possible for a person to be employed by one organization and hold a position for which another organization is responsible.

Question # 4:

Draw an EER diagram for the following description of a law firm: Each case handled by the firm has a unique case number; a date opened, date closed, and judgment description are also kept on each case. A case is brought by one or more plaintiffs, and the same plaintiff may be involved in many cases. A plaintiff has a requested judgment characteristic. A case is against one or more defendants and the same defendant may be involved in many cases. A plaintiff or defendant may be a person or an organization. Over time, the same person or organization may be a defendant or a plaintiff in cases. In either situation, such legal entities are identified by an entity number, and other attributes are name and net worth.