**Tutorial 1**

**GC 312**

**Problem 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 situation:

1. At a given time, a person must be exactly one of these subtypes.
2. 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.
3. A person may or may not be one of these subtypes. On other hand, a person may be any tow (or even three) of these subtypes at the same time.
4. At a given time, a person must be at least one of these subtypes.

**Problem 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

SAVING: 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

**Problem 3:**

An organization depends on a number of different types of persons for its successful operation. The organization is interested in the following attributes for all these person: SSN, Name, Address, and Telephone. A person may have multiple telephone numbers. Three types of persons are of greatest interest: employees, volunteers, and donors. Employees only have a Date Hired attribute, and volunteers only have a Skill attribute. Donors only have a relationship (named Donators) with an item that has number and name. a donor must have donated one or more items, and an item may have no donors, or one donor.

There are persons other than employees, volunteers, and donors who are of interest to the organization, so that a person need not belong to any of these three groups. On the other hand, at a given time a person may belong to two or more of these groups (for example, employees and donors).

Draw an EER diagram based on the requirement above.

**Problem 4:**

We want to create the database of a training center, including information about its members, training activities and bookings. There are just three types of activity: Yoga, Aerobics and Core. Each member is identified by Name and his/her e-mail address. Gold-members can book any training activity, while common members can only book core- activities. For each training activity, the database stores the schedule (week, day of week, and time), the room, the leader and the e-mail of the leader. Each leader leads several activities per week, but the same activities every week. It allowed to the member to participate in more than one activity during the week