

## EER Diagram Practice

### Question 1

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 of these persons: 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 Donates) 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 or many donors.

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 requirements above. Write down assumptions (if any) you make in your answer.

### Question 2

Insid Inc. is a small career development services company for young professionals. They provide career consultations to applicants looking for entry-level jobs. They offer three services, resume, interview practice and A-to-Z mentorship. Their process is simple. A career advisor talks with a customer to determine their background, challenges and career needs. The customer purchases the service/services that best fits their needs and signs a contract. When the contract is signed, the client department assigns the customer a client manager. The client manager assigns an industry consultant who will be responsible for delivering the services to the customer.

Draw an **EER diagram** based on the requirements above. Write down assumptions (if any) you make in your answer.

### Question 3

A library service wants to create a database to store details of its libraries, books and borrowers. Details include the following: A book has a unique ISBN number, a title and one or more authors. The library service may own several copies of a given book, each of which is located in one of the service's libraries. A given library contains many books, and in order to distinguish different copies of the same book a library assigns a different copy-number to each of its copies of a given book; the price that was paid for each copy is also recorded. Every library has a unique name and is either a main library or a branch library. A main library may have zero or more branch libraries and every branch library is a branch of exactly one main library. A borrower has a name and a unique ID code. A borrower can have many books on loan, but each copy of a book can only be on loan to one borrower. A borrower could borrow the same book on several occasions, but it is assumed that each such loan will take place on a different date.

#### **Question 4 / Sample Quiz**

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

1. Each exhibition event in the gallery has an id, theme, title, date, time, registration fees for artists and price for tickets.
2. Each exhibition will host several items. The items will have an id, title, description, selling price if it is for sale and location within the gallery where it is placed for exhibition. A single item may be showcased in several exhibitions. The items are of two types: paintings and sculptures. For paintings, there should be a type attribute to store if it is oil painting, acrylic etc.
3. All exhibition items/art are created by artists. All necessary personal information of the artists are also stored.
4. Visitors will register online to purchase a ticket to the event. Necessary personal information of visitors will be saved in the database.
5. The visitors can also buy items from the exhibition.

Draw an **EER** diagram. Write all assumptions(if any).