

# Database Management System Lab

## Assignment No. - 1

Write down the required DDL and DML instructions based on the following relation given below:

PATIENT (P\_ID: String (not null), P\_NAME : String, P\_DOB: date, P\_AILMENT : String, P\_BILL: number, P\_CONTACT : String, P\_ADDR : String)

### Works to be done on the above Relations :--

- i. Create all the relations and insert at least five records in each table.
- ii. Find all the existing information in the table.
- iii. Find all the patients who can avail senior citizen discount.
- iv. Find all the patients who have heart ailment and are from kolkata.
- v. Find id, name, bill of all the patients who have a bill of more than Rs. 20000/- and are from outside kolkata.
- vi. Find all the patients who were born between 1980 and 1990.
- vii. Find all the patients who have a contact person in kolkata.

## Assignment No. - 2

Write down the required DDL and DML instructions based on the following relations given below:

SUPPLIER (SID: String (Primary key), SNAME: String, CITY: String);

ITEM (ITEM\_ID: String (~~Primary key~~), INAME: String, COLOR: String, WEIGHT: Number);

SUPPLY (SID: String (~~Primary key~~), ITEM\_ID: String (~~Primary key~~), QUANTITY: Number);

### Works to be done on the above Relations :--

- i. Create all the relations and insert at least five records in each table.
- ii. Find all the existing suppliers.
- iii. Find all the items which are sold by at least one supplier.
- iv. Find all the suppliers who live in Delhi.
- v. Find all the suppliers who do not live in Calcutta.
- vi. Find all the suppliers who do not sell any item.
- vii. Find all the suppliers who sell at least one item.
- viii. Find all the suppliers who sell the item number 'ITEM 1'.
- ix. Find all the suppliers who sell the item number 'ITEM 1' and 'ITEM 2'.
- x. Find all the suppliers who sell either the item number 'ITEM 1' or 'ITEM 2'.
- xi. Find all the suppliers who sell the item of color RED.
- xii. Find all the suppliers who sell the item of color RED with quantity between 200 and 500.

- xiii. Find all the items which are sold by at least two suppliers.
- xiv. Find all the suppliers who sell all the items.
- xv. Find the suppliers who sell the highest quantity of one item.

### Assignment No. - 3

**Data base to manage the insurance of a vehicle. The relations with their respective attributes are shown below:**

Person (**driver id**, name, address)

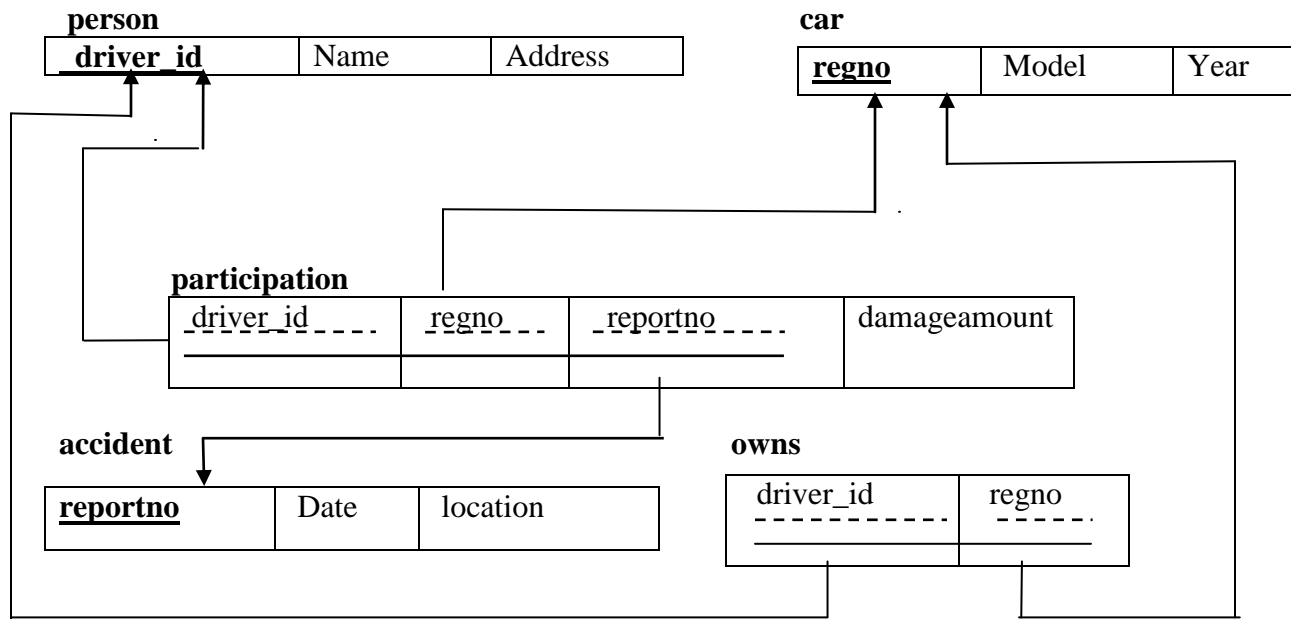
Car (**regno**, model, year) Put year as number

Accident (**reportno**, ~~date~~, location) ~~accd~~ate

Owns (**driverid**, **regno**)

Participated (**driverid**, **regno**, **reportno**, damageamount)

#### Schema description:



#### Works to be done on the above Relations:--

- i. Query to update the damage amount for the car with a specific register number in the accident with report number between 1 & 200.
- ii. Query to find the total number of people who owned the cars that were involved in accidents in 2002.
- iii. Query to find the number of accidents in which cars belonging to a specific model were involved.
- iv. Query to check if a person with a specific driver\_id has met with an accident in 2003.
- v. Query to display name of a person & the car he/she owns.

## Assignment No. - 4

Consider the following relations for an order processing database application in a company.

**Customer** (custNo: int, cname: string, city: string)

**ORDER** (orderNo: int, odate: date, cust No: int, ord-amt: int)

**Order-item** (orderNo: int, item No: int, qty: int)

**Item** (itemNo: int, unit price: int)

**Shipment** (orderNo: int, warehouse No: int, ship-date: date)

**Warehouse** (warehouseNo: int, city: string)

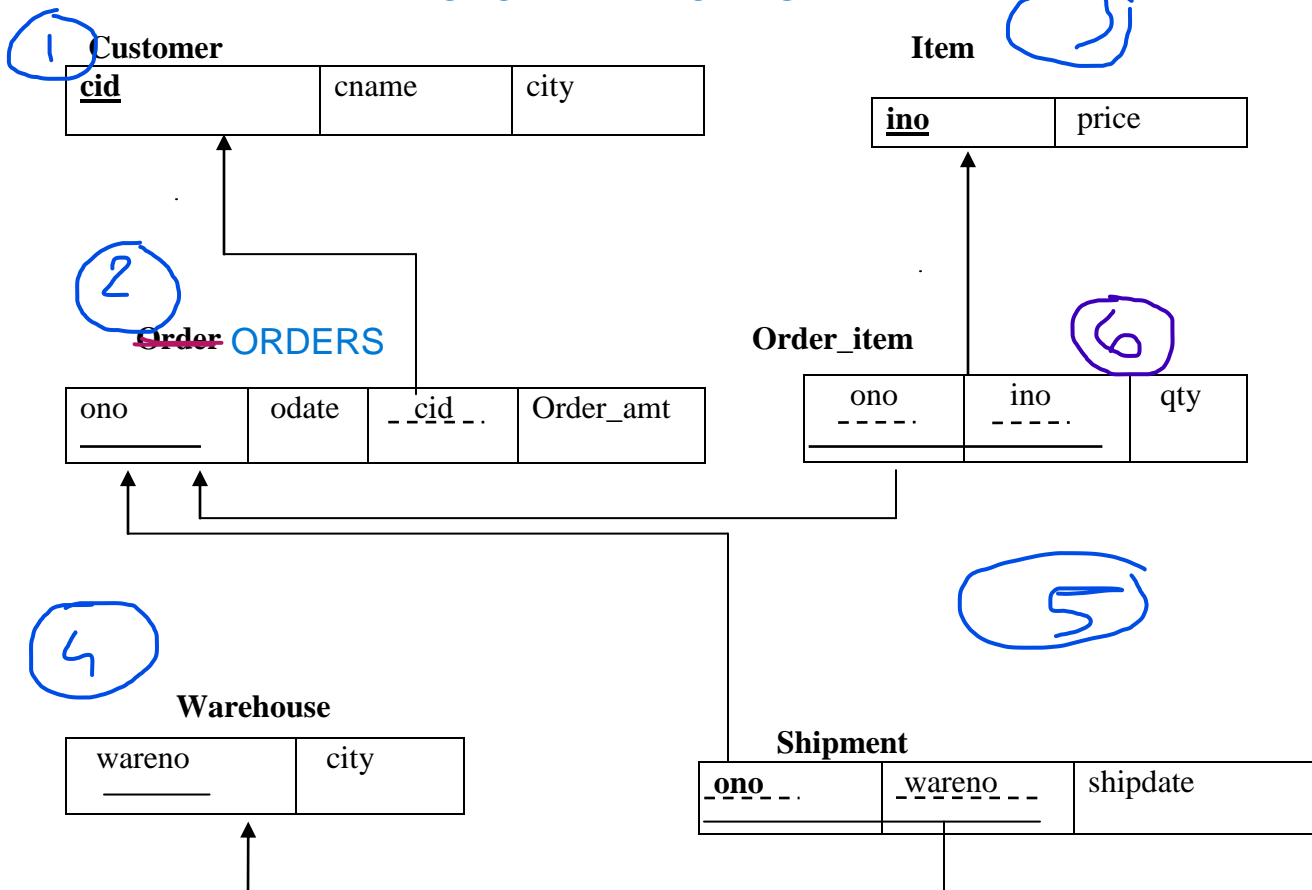
### Schema description

The following schema describes an *order processing* database of a company. It describes the following relations: *customer*, *order*, *order-item*, *item*, *shipment* and *warehouse*.

→ For the attribute names follow the schema names

→ CITY.CUSTOMER AND CITY.WAREHOUSE ARE DIFFERENT  
DONOT MAKE FOREIGN KEY

#### Schema description:



#### Works to be done on the above Relations:--

- Produce a listing: custname, no\_of\_orders, avg\_order\_amt, where the middle column is the total number of orders by the customer and the last column is the average order amount for that customer.

- ii. List the orderNo for the orders that were shipped from all the warehouses that the company has in a specific city.
- iii. We would like to know the order numbers of all orders placed by customers who belong to a particular city.
- iv. We would like to know the details of all orders that the company has received.

### Assignment No. - 5

Consider the following database of student enrollement in courses and books adopted for each course.

**Student** (regno:string , name : string , major : string , bdate : int)

**Course** (courseNo : int , cname : string , dept : string)

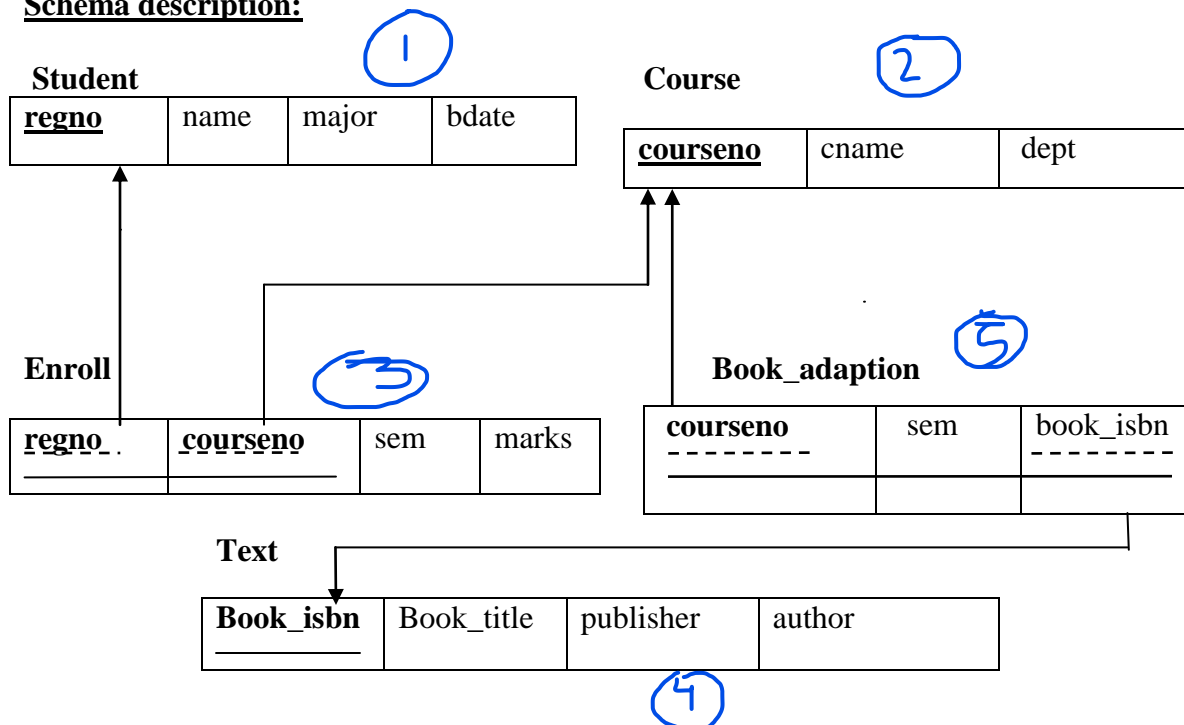
**Enroll** (regno : string , courseNo: int , sem : int , marks : int )

**Book\_adaption** ( courseNo: int , sem : int , book isbn :int)

**Text**( book isbn : int , book-title : string , publisher : string , author : string).

- 1> Create the above tables by properly specifying the primary keys and the foreign key.
- 2> Enter atleast five tuples for each relation.
- 3> Solve all SQL queries.
- 4> Generation of suitable reports.

#### Schema description:



#### Works to be done on the above Relations:--

- i. Demonstrate how you add a new text book to the database and make this book adopted by some department
- ii. Produce a list of textbooks in the alphabetic order for courses offered by the 'cs' department that use more than two books
- iii. List any department that has all its adopted books published by a specific publisher.

## Assignment No. - 6

Consider the following relations for the details maintained by a book dealer.

**Author** (author-id: int, name: string, city: string, country: string)

**Publisher** (publisher-id: int, name: string, city: string, country: string)

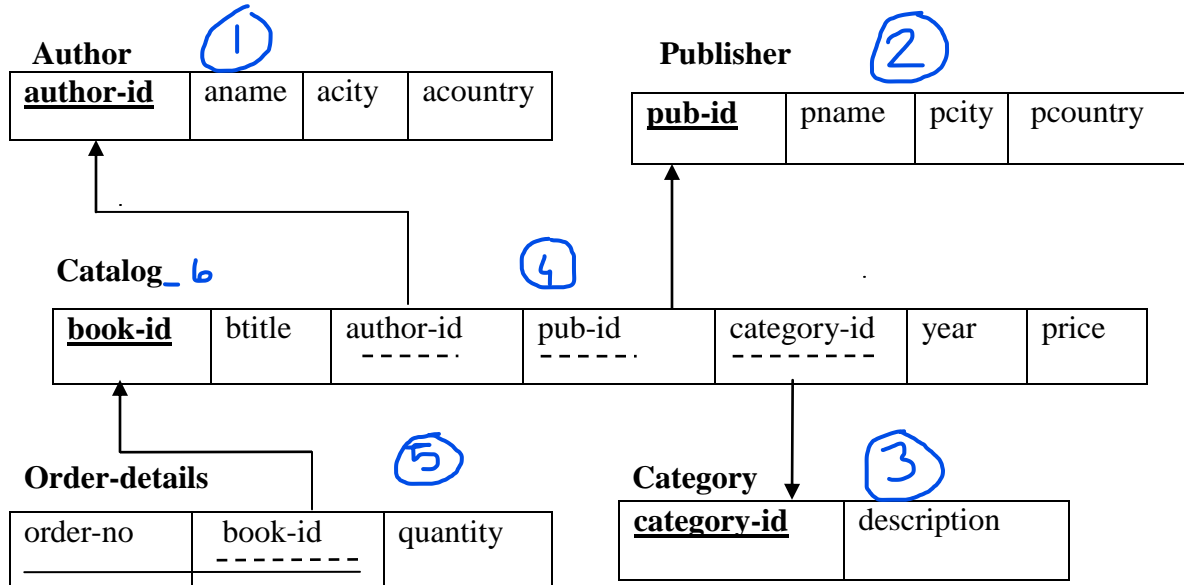
**Catalog** (book-id: int, title: string, author-id: int, publisher-id: int, category-id: int, year: int, price: int)

**Category** (category-id: int, description: string)

**Order-details** (order-no: int, book-id: int, quantity: int)

### Schema description

The following schema describes a database maintained by a book-dealer. It describes the following relations: *author*, *publisher*, *catalog*, *category*, *order-details*.

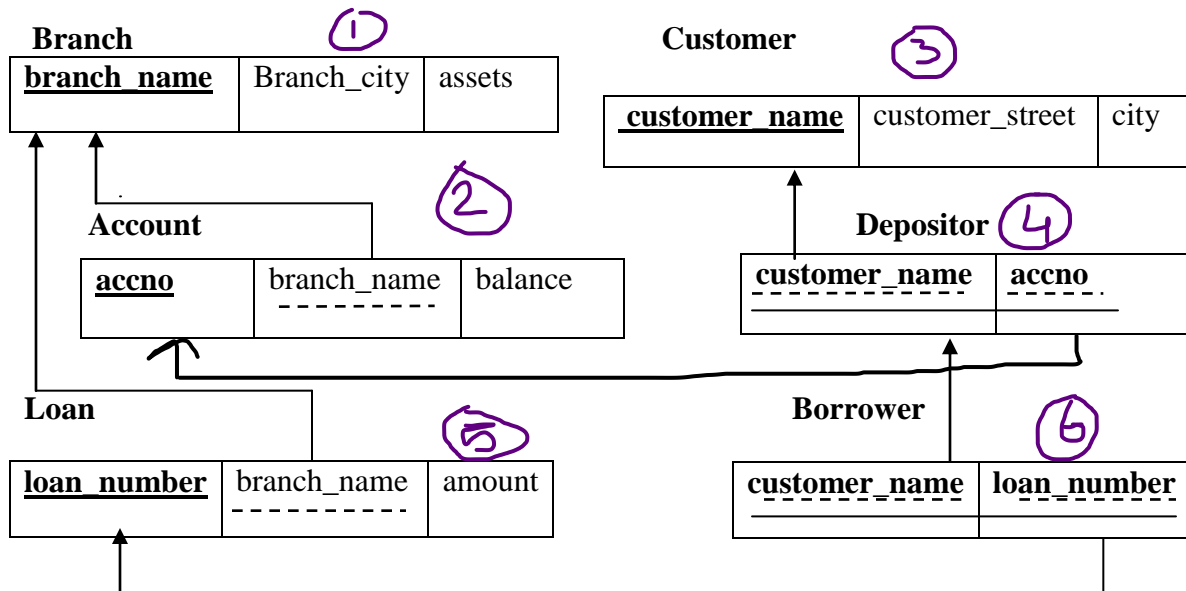


### Works to be done on the above Relations:--

- Create the above tables by properly specifying the primary keys and the foreign keys.
- Enter at least five tuples for each relation.
- Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2000.
- Find the author of the book which has maximum sales.
- Demonstrate how you increase the price of books published by a specific publisher by 10%.

## Assignment No. - 7

### Schema description:



Consider the following database for a **banking enterprise**

**Branch** (branch\_name: string, branch\_city: string, assets: real)

**Account** (accno: int, branch\_name: string, balance: real)

**Customer** (customer\_name: string, customer\_street: string, city: string)

**Depositor** (customer\_name: string, accno: int)

**Loan** (loan\_number: int, branch\_name: string, amount: real)

**Borrower** (customer\_name: string, loan\_number: int)

### Works to be done on the above Relations:--

- Create the above tables by properly specifying the primary keys and the foreign keys.
- Enter at least five tuples for each relation.
- Find all the customers who atleast two accounts at the **main** branch.
- Find all the customers who have an account at **all** branches located in a specific city.
- Demonstrate how you delete all account tuples at every branch located in a specific city.