DATA BASE MANAGEMENT SYSTEM LAB

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Part II: Relational Database Implementation
Implement the following mini-project's database schemas and give an expression in SQL for each of the queries.

Project 1. Library Management System:

Create the following schema, enter at least 5 records in each table and answer the queries given below.

LibraryBooks (Accession number, Title, Author, Department, PurchaseDate, Price**)**

IssuedBooks (Accession number, Borrower**)**

a) Identify primary and foreign keys. Create the tables and insert at least 5 records in each table.

b) Delete the record of book titled "Database System Concepts".

c) Change the Department of the book titled "Discrete Mathematics" to "CSE".

d) List all books that belong to "CSE" department.

e) List all books that belong to "CSE" department and are written by author "Navathe".

f) List all computer (Department="CSE") that have been issued.

g) List all books which have a price less than 500 or purchased between "01/01/2015" and "01/01/2019".

Project 2. Student Management System:

Create the following schema, enter at least 5 records in each table and answer the queries given below.

Student (College roll number, Name of student, Date of birth, Address, Marks(rounded off to whole number) in percentage at 10 + 2, Phone number)

Paper Details (Paper code, Name of the Paper)

Academic_details (College roll number, Paper code, Attendance, Marks in home examination)

a) Identify primary and foreign keys. Create the tables and insert at least 5 records in each table.

b) Design a query that will return the records (from the second table) along with the name of student from the first table, related to students who have more than 75% attendance and more than 60% marks in paper 2.

c) List all students who live in "Lucknow" and have marks greater than 60 in paper 1.

d) Find the total attendance and total marks obtained by each student.

e) List the name of student who has got the highest marks in paper 2.

Project 3. Customer Management System:

Create the following schema, enter at least 5 records in each table and answer the queries given
below. **Customer** (CustID, email, Name, Phone, ReferrerID)

Bicycle (BicycleID, DatePurchased, Color, CustID, ModelNo)

BicycleModel (ModelNo, Manufacturer, Style)

Service (StartDate, BicycleID, EndDate)

a) Identify primary and foreign keys. Create the tables and insert at least 5 records in each table.

b) List all the customers who have the bicycles manufactured by manufacturer "Honda".

c) List the bicycles purchased by the customers who have been referred by customer "C1".

d) List the manufacturer of red colored bicycles.

e) List the models of the bicycles given for service.

Project 4. Human Resource Management System:

Create the following tables, enter at least 5 records in each table and answer the queries given
below. **EMPLOYEE** (Person_Name, Street, City)

WORKS (Person_Name, Company_Name, Salary)

COMPANY (Company_Name, City)

MANAGES (Person_Name, Manager_Name)

a) Identify primary and foreign keys.

b) Alter table employee, add a column "email" of type varchar(20).

c) Find the name of all managers who work for both Samba Bank and NCB Bank.

d) Find the names, street address and cities of residence and salary of all employees who work
for "Samba Bank" and earn more than $10,000.

e) Find the names of all employees who live in the same city as the company for which they
work.

f) Find the highest salary, lowest salary and average salary paid by each company.

g) Find the sum of salary and number of employees in each company.

h) Find the name of the company that pays highest salary.

Project 5. Supplier Management System:

Create the following tables, enter at least 5 records in each table and answer the queries given
below. **Suppliers** (SNo, Sname, Status, SCity)

Parts (PNo, Pname, Colour, Weight, City)

Project (JNo, Jname, Jcity)

Shipment (Sno, Pno, Jno, Qunatity)

a) Identify primary and foreign keys.

b) Get supplier numbers for suppliers in Paris with status>20.

c) Get suppliers names for suppliers who do not supply part P2.

d) For each shipment get full shipment details, including total shipment weights.

e) Get all the shipments where the quantity is in the range 300 to 750 inclusive.

f) Get part nos. for parts that either weigh more than 16 pounds or are supplied by suppliers S2, or both.

g) Get the names of cities that store more than five red parts.

h) Get full details of parts supplied by a supplier in Delhi.