

Department of Computer Science and Engineering, Anna University, Chennai
CS6106 – Database Management Systems
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Week 2 - Constraints

Observation (5)

1. What are integrity Constraints? List the types.
2. Write the syntax for creating the following Constraints.
 - a. Not Null
 - b. Unique
 - c. Primary Key
 - d. Foreign Key
 - e. Check
 - f. Default
 - g. Index
3. Write syntax to Drop the Created Constraints.

Execution (15)

Exercise 1:

- a. Create a table called customer with attributes name, gender, address and contact number in which customer name is the primary key.
- b. Define integrity constraint to specify gender with check clause.
- c. Ensure the constraint primary key is not null.
- d. Alter the table customer with two more attributes age and DoB
- e. Insert at least 5 tuples into the table.
- f. List all the female customers

Exercise 2:

- a. Create a table called account with attributes account number, branch name and balance number in which account number of 14 digit is the primary key.
- b. Define integrity constraint to ensure account balance is not zero with check clause.
- c. Ensure the constraint primary key is not null.
- d. Alter the table account with one more attribute acc-type
- e. Insert at least 10 tuples into the table.
- f. Find all the account having balance more than 10,000
- g. Find all accounts belongs to a particular branch.

Exercise 3:

- a. Create table flight with attributes flight number, capacity, type, and model
- b. Define integrity constraints to uniquely identify the flights and to ensure type attribute satisfy condition that the flight may either domestic or International.
- c. Alter the flight table with additional attributes
- d. Insert few tuples into the table.
- e. Find all the domestic flights

Exercise 4:

Execute and create all the constraints for the case study Hospital Management System Application.

Spot (5)

An online store database has its own employees who take orders for various products from customers. The data requirements are summarized as follows:

- a. The online store has employees identified by a unique employee number, their name, DoB, pin code and city where they are located.
- b. The customers of the company are identified by a unique customer number, their name, street name, pin code, city where they are located, and phone number.
- c. The products that are being sold by the company are identified by a unique number, product part name, their price, and quantity on hand.
- d. Orders placed by customers are taken by employees and are given a unique order number. Each order may contain certain quantities of one or more products, cost of each product and net total, their date of order, date of shipment and date of delivery are recorded.

Create the relations with the above mentioned specifications with the following constraints:

1. Identify the primary key(s) and foreign key(s) from the schema.
2. Ensure that order number begins with O, similarly customer number with C, employee number with E and product number with P.
3. The phone numbers of the customers should not be identical to each other.
4. The quantity ordered should not be zero.
5. Order delivered date should always be less than the shipped date which is less than order date.
6. The price of the product should compulsorily be above 0.
7. The order cost must include 18% GST for the products cost.

The following changes have been identified due to increasing business. As a database designer you must accommodate these changes in your design.

1. It is required to add more attributes like min stock level for each product and employee target credit.
2. Adjust the customer name width to make it adequate for customers having long names.
3. Remove date of order field from relation.
4. A customer may cancel an order or ordered part(s) may not be available in a stock. Hence on removing the details of the order, ensure that all the corresponding details are also deleted.

Happy Learning!