

LU06.S03 - SQL-DDL: Constraint Management

Assignments & Solutions

A: PRIMARY KEY

Create a table `books` that has a `book_id` as a unique identifier for each book, with `book_id` as the primary key. Include columns for `book_title` (VARCHAR) and `author_name` (VARCHAR). The `book_id` should be an integer and cannot be NULL.

```
CREATE TABLE books (  
    book_id INT PRIMARY KEY,  
    book_title VARCHAR(100),  
    author_name VARCHAR(100)  
);
```

B: FOREIGN KEY

Create two tables: one called `departments` and the other called `employees`. Each department has a `department_id` as its primary key. In the `employees` table, include a column called `department_id` as a foreign key that references the `departments` table. Ensure that every employee is linked to a department.

```
CREATE TABLE departments (  
    department_id INT PRIMARY KEY,  
    department_name VARCHAR(50)  
);
```

```
CREATE TABLE employees (  
    employee_id INT PRIMARY KEY,  
    employee_name VARCHAR(100),  
    department_id INT,  
    FOREIGN KEY (department_id) REFERENCES departments(department_id)  
);
```

C: NOT NULL

Create a table `students` that includes a `student_id` (INT) and a `student_name` (VARCHAR). Ensure that the `student_name` column cannot have a NULL value by applying the NOT NULL constraint.

```
CREATE TABLE students (  
    student_id INT PRIMARY KEY,  
    student_name VARCHAR(50) NOT NULL  
);
```

D: AUTO INCREMENT

Create a table products where each product has an automatically generated, unique product_id using the AUTO_INCREMENT feature. Include columns for product_name and price.

```
CREATE TABLE products (  
  product_id INT AUTO_INCREMENT PRIMARY KEY,  
  product_name VARCHAR(100),  
  price DECIMAL(10,2)  
);
```

E: UNIQUE

Create a table users that has a user_id (INT) and email (VARCHAR). Ensure that no two users can have the same email address by applying the UNIQUE constraint to the email column.

```
CREATE TABLE users (  
  user_id INT PRIMARY KEY,  
  email VARCHAR(100) UNIQUE  
);
```

Vocabulary

| English | German |
|---------|--------|
| ... | ... |
| ... | ... |



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