

B.Sc. Engg. 3rd Year 1st Semester 2023

DBMS LAB DISCUSSION-2

Use the Pubs database and explore/perform the following topics/ tasks.

1. Joining Tables (Inner join].

Discussion

The following query shows author's last name and title id of books.

```
SELECT au_lname, title_id FROM authors JOIN titleauthor ON authors.au_id=titleauthor.au_id
```

Task 1:

- i) Show the title of a book, the corresponding author name.
- ii) Show the title of a book, the corresponding author and publisher name.

2. The Cartesian product

The following query shows author's last name and city along with publisher's name and city

```
SELECT au_lname, pub_name FROM authors, publishers
```

Task 2:

- iii) Show the author name, city, publisher name and city only for which the authors and the publishers live in the same city

3. Nested query

```
SELECT * FROM titles WHERE royalty = (SELECT avg(royalty) FROM titles)
```

Task 3:

- iv) Show the author name(s) of the book which has the maximum royalty
Hint: use IN in place of =

4. Creating a table:

A table called CustomerAndSuppliers is to be created on the following schema

Field name	Data type	Size	Requirement
cusl_id	Character	6	1. Primary key 2. Starting with C or S and then 5 digits i.e. C00001 or S0001.
cusl_fname	character	15	NULL not allowed
cusl_lname	character	15	Use variable character size
cusl_address	text		
cusl_telno	character	12	Must follow the format like 012-34567890
cusl_city	character	12	Default value is Rajshahi
sales_amnt	money		Negative values not allowed
proc_amnt	money		Negative values not allowed

The corresponding SQL statement is as follows

```
CREATE TABLE CustomerAndSuppliers
```

```
(
    cusl_id CHAR (6) PRIMARY KEY CHECK (cusi_id LIKE '[CS][0-9][0-9][0-9][0-9]'),
    cusl_fname CHAR(15) NOT NULL,
    cusl_lname VARCHAR (15),
    cusl_address TEXT,
    cusl_telno CHAR (12) CHECK (cusi_telno LIKE '[0-9][0-9][0-9]-[0-9][0-9][0-9][0-9][0-9][0-9]'),
    cusl_city CHAR (12) DEFAULT 'Rajshahi',
    sales_amnt      MONEY CHECK (sales_amnt>=0),
    proc_amnt       MONEY CHECK (proc_amnt>=0)
)
```

5. Inserting data into a table:

Example:

```
INSERT CustomerAndSuppliers
```

```
(cusi_id,cusi_fname,cusi_lname,cusi_address,cusi_telno,cusi_city,sales_amnt,proc_amnt) VALUES
```

```
('C00001','Iqbal','Hossain','221/B Dhanmondi','017-00000000','Dhaka',0,0)
```

Task 4: Create tables on the following schema

Table name: Item

Field name	Data type	Size	Requirement
item_id	Character	6	1. Primary key 2. Starting with P and then 5 numbers i.e. A0001.
item_name	character	12	
item_category	character	10	Example: Electrical, Mechanical, Software, Books etc.
item_price	float	12	Negative values not allowed
item_qoh	integer		Negative values not allowed
item_last_sold	date		Default value is current date

Table: Transactions

Field name	Data type	Size	Requirement
tran_id	Character	10	1. Primary key 2. Starting with T and then 9 numbers i.e. T000000001.
item_id	character	6	Foreign key with reference to item table
cust_id	character	5	Foreign key with reference to customer table
tran_type	character	1	Either S or O, (S for sales Order to supplier)
tran_quantity	integer	12	Only positive values.
tran_date	date and time		Default is current date