

BUAN 6320

Database Foundations for Business Analytics

Assignment 2

Problem 1

Create the following table in your database with the following schema:

Table: ActorDirector

Column Name	Type
actor_id	int
director_id	int
timestamp	int

timestamp is the primary key column for this table.

Add the following data to your tables:

Input:

ActorDirector table:

actor_id	director_id	timestamp
1	1	0
1	1	1
1	1	2
1	2	3
1	2	4
2	1	5
2	1	6

Write a SQL query for a report that provides the pairs (actor_id, director_id) where the actor has cooperated with the director at least three times.

Return the result table in any order.

The results should be:

Output:

actor_id	director_id
1	1

Problem 2

Assuming you have a table in your database called 'Enrollment with the following schema:

Table: Enrollment

```
+-----+-----+
| Column Name | Type   |
+-----+-----+
| student     | varchar|
| class       | varchar|
+-----+-----+
```

(student, class) is the primary key column for this table.

Each row of this table indicates the name of a student and the class in which they are enrolled.

The table contains the following data:

Input:

Enrollment table:

```
+-----+-----+
| student | class   |
+-----+-----+
| A       | Math    |
| B       | English |
| C       | Math    |
| D       | Biology |
| E       | Math    |
| F       | Computer|
| G       | Math    |
| H       | Math    |
| I       | Math    |
+-----+-----+
```

Write an SQL query to report all the classes that have at least five students.

Return the result table in any order.

The result should be:

Output:

```
+-----+
| class |
+-----+
| Math  |
+-----+
```

Problem 3

Create the following table in your database with the following schema:

Table: Orders

Column Name	Type
order_number	int
customer_number	int

order_number is the primary key for this table.

This table contains information about the order ID and the customer ID.

Add the following data to your tables:

Input:

Orders table:

order_number	customer_number
1	1
2	2
3	3
4	3

Write an SQL query to find the customer_number for the customer who has placed the largest number of orders.

The results should be:

Output:

customer_number
3

Problem 4

Create the following tables in your database with the following schema:

Table: Sales

Column Name	Type
sale_id	int
product_id	int
year	int
quantity	int
price	int

(sale_id, year) is the primary key of this table.

product_id is a foreign key to Product table.

Each row of this table shows a sale on the product product_id in a certain year.

Note that the price is per unit.

Table: Product

Column Name	Type
product_id	int
product_name	varchar

product_id is the primary key of this table.

Each row of this table indicates the product name of each product.

Add the following data to your tables:

Input:

Sales table:

sale_id	product_id	year	quantity	price
1	100	2008	10	5000
2	100	2009	12	5000
7	200	2011	15	9000

Product table:

product_id	product_name
100	Nokia
200	Apple
300	Samsung

Write an SQL query that reports the product_name, year, and price for each sale_id in the Sales table.

Return the result table in any order.

The results should be:

Output:

+-----+-----+-----+			
product_name	year	price	
+-----+-----+-----+			
Nokia	2008	5000	
Nokia	2009	5000	
Apple	2011	9000	
+-----+-----+-----+			