Exercise 5 View, Union

Consider the following tables maintained by a book dealer:

AUTHOR (author-id:int, name:string, city:string, country:string)
PUBLISHER (publisher-id:int, name:string, city:string, country:string)
CATALOG (book-id:int, title:string, author-id:int, publisher-id:int, category-id:int, year:int, price:int)
CATEGORY (category-id:int, description:string)
ORDER-DETAILS (order-no:int, book-id:int, quantity:int)

Demonstrate with appropriate SQL Statement for the following:

1. **Create the above tables by properly specifying the primary keys and the foreign keys.**
2. **Enter at least five tuples for each relation.**
3. **Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after certain year (say 2000).**
4. **Find the author of the book which has maximum sales.**
5. **Demonstrate how you increase the price of books published by a specific publisher by 10%.**
6. **Illustrate the use of UNION operator between the table AUTHOR and CATALOG table.**

Objective: The objective of this exercise is to enable you to understand Transaction processing and create VIEW. Its objective is also to get the concept of UNION operator.

Procedure and description:

In SQL, a **view** is a virtual table based on the result-set of an SQL statement. A view contains rows and columns, just like a real table. The fields in a view are fields from one or more real tables in the database. You can add SQL functions, WHERE, and JOIN statements to a view and present the data as if the data were coming from one single table. A view

always shows up-to-date data. The database engine recreates the data, using the view's SQL statement, every time a user queries a view.

The UNION operator is used to combine the result-set of two or more SELECT statements. Notice that each SELECT statement within the UNION must have the same number of columns. The columns must also have similar data types. Also, the columns in each SELECT statement must be in the same order.

Algorithm: The steps for this exercise are given below:

Step – 1: Start

Step – 2: Create tables using CREATE commands with its essential attributes.

Step – 3: Insert the values using INSERT INTO statements. (Insert the suitable values (tuples) so that queries are executed correctly.)

Step – 4: you can create View for the details of the sales and then execute different commands and extract information from the table. (Hint: use keywords like VIEW, UNION etc. You can use suitable operators like AND & OR for certain conditions to meet various other SQL clauses.)

Step – 5: Execute and check.

Expected Output: Creation of tables, use of view and its modification through SQL commands.