

Homework Assignment 7

1. E - Both a and b are correct.
2. D – rollback
3. A - INSERT INTO
4. C - DELETE FROM homework10
5. A - SELECT * FROM homework10 WHERE col2 IS NULL FOR UPDATE
6. B - INSERT INTO homework10 (col3, col1, col2) VALUES (NULL, 'A', 'B');
7. A - &
8. B - 'O' 'hara' (two single quotes following the O)
9. B - LOCK TABLE homework10 IN EXCLUSIVE MODE;
10. D - None of the above would cause the command to fail.
11. E - all of the above
12. C - Other users can view the new orders as soon as you exit the system or execute a COMMIT command.
13. A - DELETE FROM orders WHERE orderdate < '01-APR-09';
14. A – 1
15. D - None of the above restores the deleted orders.

Advance Challenge

Currently, the contents of the Category column in the BOOKS table are the actual name for each category. This structure presents a problem if one user enters COMPUTER for the Computer category and another user enters COMPUTERS. To avoid this and other problems that might occur, the database designers have decided to create a CATEGORY table containing a code and description for each category. The structure for the CATEGORY table should be as follows

Column Name	Datatype	Width	Constraints
CATCODE	VARCHAR2	3	PRIMARY KEY
CATDESC	VARCHAR2	11	NOT NULL

The data for the CATEGORY table is as follows:

CATCODE	CATDESC
BUS	BUSINESS
CHN	CHILDREN
COK	COOKING
COM	COMPUTER
FAL	FAMILY LIFE
FIT	FITNESS
SEH	SELF HELP
LIT	LITERATURE

Required:

- Create the CATEGORY table and populate it with the given data. Save the changes permanently.
- Add a column to the BOOKS table called Catcode.
- Add a FOREIGN KEY constraint that requires all category codes entered in the BOOKS table to already exist in the CATEGORY table. Set the Catcode values for the existing rows in the BOOKS table, based on each book's current Category value.
- Verify that the correct categories have been assigned in the BOOKS table, and save the changes permanently.
- Delete the Category column from the BOOKS table.

SOLUTION:-

Step 1: Create the CATEGORY Table

Create the CATEGORY table with CATCODE as the primary key and CATDESC as a NOT NULL column.

```
CREATE TABLE CATEGORY (  
    CATCODE VARCHAR2(3) PRIMARY KEY,  
    CATDESC VARCHAR2(11) NOT NULL  
);
```

Step 2: Populate the CATEGORY Table with Given Data

Insert the provided data into the CATEGORY table.

```
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('BUS', 'BUSINESS');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('CHN', 'CHILDREN');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('COK', 'COOKING');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('COM', 'COMPUTER');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('FAL', 'FAMILY LIFE');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('FIT', 'FITNESS');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('SEH', 'SELF HELP');  
INSERT INTO CATEGORY (CATCODE, CATDESC) VALUES ('LIT', 'LITERATURE');
```

Step 3: Add Catcode Column to the BOOKS Table

Add a new column called Catcode to the BOOKS table to store the category code for each book.

```
ALTER TABLE BOOKS  
ADD Catcode VARCHAR2(3);
```

Step 4: Update Catcode in BOOKS Table Based on Category Column

Map the existing Category values in the BOOKS table to the appropriate Catcode values.
For example:

```
UPDATE BOOKS SET Catcode = 'BUS' WHERE Category = 'BUSINESS';  
UPDATE BOOKS SET Catcode = 'CHN' WHERE Category = 'CHILDREN';  
UPDATE BOOKS SET Catcode = 'COK' WHERE Category = 'COOKING';  
UPDATE BOOKS SET Catcode = 'COM' WHERE Category = 'COMPUTER';  
UPDATE BOOKS SET Catcode = 'FAL' WHERE Category = 'FAMILY LIFE';  
UPDATE BOOKS SET Catcode = 'FIT' WHERE Category = 'FITNESS';  
UPDATE BOOKS SET Catcode = 'SEH' WHERE Category = 'SELF HELP';  
UPDATE BOOKS SET Catcode = 'LIT' WHERE Category = 'LITERATURE';
```

Step 5: Add Foreign Key Constraint

Ensure that the Catcode values in the BOOKS table reference valid CATCODE values in the CATEGORY table.

```
ALTER TABLE BOOKS  
ADD CONSTRAINT fk_books_category  
FOREIGN KEY (Catcode) REFERENCES CATEGORY(CATCODE);
```

Step 6: Verify the Updates (Optional)

Run a query to verify that the correct Catcode values have been assigned.

```
SELECT * FROM BOOKS;
```

Step 7: Delete the Category Column from BOOKS Table

Once verification is complete, remove the old Category column from the BOOKS table.

```
ALTER TABLE BOOKS  
DROP COLUMN Category;
```