Updating and Deleting Data, Creating and Manipulating Tables

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Updating and Deleting Data

- *Caution*: changes are irreversible. Make backup first!
- May require extra security privileges
- If table is related to another through foreign key, change may not be possible
- UPDATE changes existing rows
- DELETE removes existing rows

UPDATE

Format

```
UPDATE table_name
SET column_name1 = '...',
      Column_name2 = '....'
WHERE condition
```

```
UPDATE ceos
SET ceo = 'Elon Musk'
WHERE company = 'Twitter'
```

Considerations

- Can include SELECT in update statements
- Some DBMS allow updating values to a table using values from another table
- NULL (no value) and '' (empty string) not the same

TRANSACTIONS

Format

```
START TRANSACTION
UPDATE table_name
SET column_name1 = '...',
        Column_name2 = '....'
WHERE condition
ROLLBACK or COMMIT
```

```
START TRANSACTION
UPDATE ceos
SET ceo = 'Elon Musk'
WHERE company = 'Twitter'
COMMIT
```

Considerations

- Allows execution of queries before commitment
- Syntax and privilege vary by DBMS

DELETE

Format

```
DELETE FROM  table_name
WHERE condition

DELETE FROM business
WHERE  name IN
('Compaq', 'Borders')
```

Considerations

- Similar format to SELECT
- FROM is optional for some DBMS, include for cross functional use
- DELETE deletes rows, DROP TABLE deletes table
- TRUNCATE TABLE table_name deletes all rows faster than DELETE
- Works with transactions

Creating and Manipulating Tables

- *Caution*: changes are irreversible. Make backup first!
- May require extra security privileges
- Format may vary by DBMS

CREATE

Format

```
CREATE TABLE table_name
Column_name
data_type(char_info)

CREATE TABLE phones
(
Co_id CHAR(3) NOT NULL,
Vend_id CHAR(5) NOT
NULL,
Desc          VARCHAR(2000)
NULL
)
```

Considerations

- NULL is default for some DBMS but specify for cross functional use across all DBMS
- Data types include: CHAR, VARCHAR, INT, DECIMAL, DATETIME (TIMESTAMP in Oracle SQL)

Manipulating Tables

Example

```
CREATE TABLE table_name
Column_name data_type(char_info)

CREATE TABLE phones
(
Co_id CHAR(3) NOT NULL,
Vend_id CHAR(5) NOT NULL
DEFAULT 00035,
Desc        VARCHAR(2000) NULL
)
```

Considerations

- NULL is default for some DBMS, specify for cross functional use
- Several data types exist: CHAR, VARCHAR, INT, DECIMAL, etc.
- Current date default functions vary by DBMS

Manipulating Tables, ALTER

Format

ALTER TABLE table_name

ADD COLUMN Column_name data_type(char_info)
DROP COLUMN Column_name
RENAME COLUMN Column_name TO New_column_name
MODIFY COLUMN Column_Name data_type

Example

ALTER TABLE ceos
MODIFY COLUMN last_name VARCHAR(75)

ALTER COLUMN age TYPE INT
*PostgreSQL

Create New Table From Existing Table

1. Create new table, including data definitions.
2. Insert data into new table from old table (INSERT INTO, SELECT, FROM).
3. Verify new table is correct using SELECT statement.
4. Rename or delete old table.
5. Name new table with old table name.
6. Additional steps as necessary.

*DROP TABLE table_name deletes table completely

Thank You!