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-- SQL Server MERGE: MERGE statement used to update data in a table based on values matched from another table.
/*
Syntax:
MERGE target_table USING source_table
ON merge_condition
WHEN MATCHED
    THEN update_statement
WHEN NOT MATCHED
    THEN insert_statement
WHEN NOT MATCHED BY SOURCE
    THEN DELETE;
*/

-- Creating New Tables
CREATE TABLE sales.category (
    category_id INT PRIMARY KEY,
    category_name VARCHAR(255) NOT NULL,
    amount DECIMAL(10 , 2 )
);

INSERT INTO sales.category(category_id, category_name, amount)
VALUES(1,'Children Bicycles',15000),
      (2,'Comfort Bicycles',25000),
      (3,'Cruisers Bicycles',13000),
      (4,'Cyclocross Bicycles',10000);

CREATE TABLE sales.category_staging (
    category_id INT PRIMARY KEY,
    category_name VARCHAR(255) NOT NULL,
    amount DECIMAL(10 , 2 )
);
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INSERT INTO sales.category_staging(category_id, category_name, amount)
VALUES(1, 'Children Bicycles',15000),
      (3, 'Cruisers Bicycles',13000),
      (4, 'Cyclocross Bicycles',20000),
      (5, 'Electric Bikes',10000),
      (6, 'Mountain Bikes',10000);

SELECT * FROM sales.category;
SELECT * FROM sales.category_staging;

-- To update data to the sales.category (target table) with the values from the sales.category_staging
--(source table), you use the following MERGE statement:
MERGE sales.category t
USING sales.category_staging s
ON (s.category_id = t.category_id)
WHEN MATCHED
    THEN UPDATE SET
        t.category_name = s.category_name,
        t.amount = s.amount
WHEN NOT MATCHED BY TARGET
    THEN INSERT (category_id, category_name, amount)
    VALUES (s.category_id, s.category_name, s.amount)
WHEN NOT MATCHED BY SOURCE
    THEN DELETE;

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-- SQL Server Transaction: A transaction is a single unit of work
--that typically contains multiple T-SQL statements.

-- If a transaction is successful, the changes are committed to the database.
--However, if a transaction has an error, the changes have to be rolled back.

CREATE TABLE invoices (
    id int IDENTITY PRIMARY KEY,
    customer_id int NOT NULL,
    total decimal(10, 2) NOT NULL DEFAULT 0 CHECK (total >= 0)
);
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CREATE TABLE invoice_items (  
    id int,  
    invoice_id int NOT NULL,  
    item_name varchar(100) NOT NULL,  
    amount decimal(10, 2) NOT NULL CHECK (amount >= 0),  
    tax decimal(4, 2) NOT NULL CHECK (tax >= 0),  
    PRIMARY KEY (id, invoice_id),  
    FOREIGN KEY (invoice_id) REFERENCES invoices (id)  
        ON UPDATE CASCADE  
        ON DELETE CASCADE  
);  
  
-- Transaction  
BEGIN TRANSACTION;  
  
INSERT INTO invoices (customer_id, total)  
VALUES (100, 0);  
  
INSERT INTO invoice_items (id, invoice_id, item_name, amount, tax)  
VALUES (10, 1, 'Keyboard', 70, 0.08),  
        (20, 1, 'Mouse', 50, 0.08);  
  
UPDATE invoices  
SET total = (SELECT  
    SUM(amount * (1 + tax))  
FROM invoice_items  
WHERE invoice_id = 1);  
  
COMMIT;
```