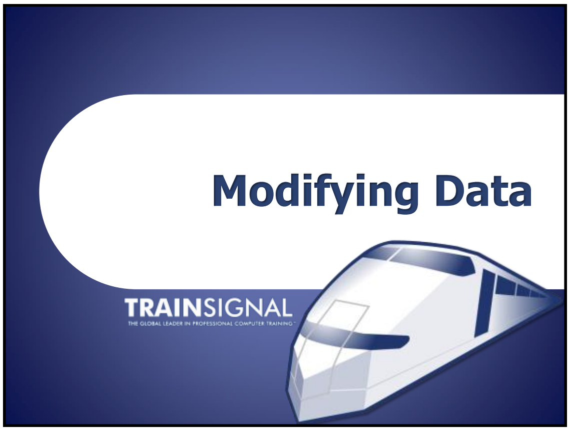

Modifying Data

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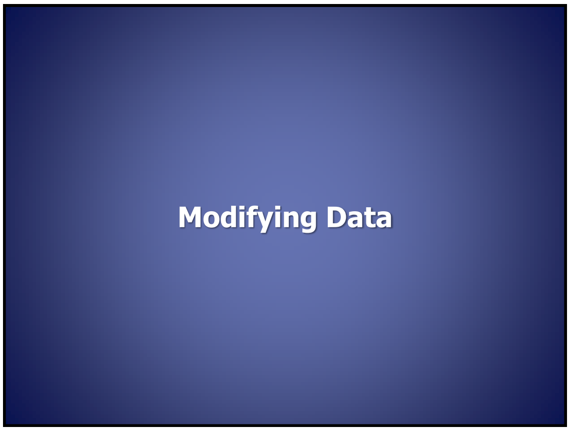
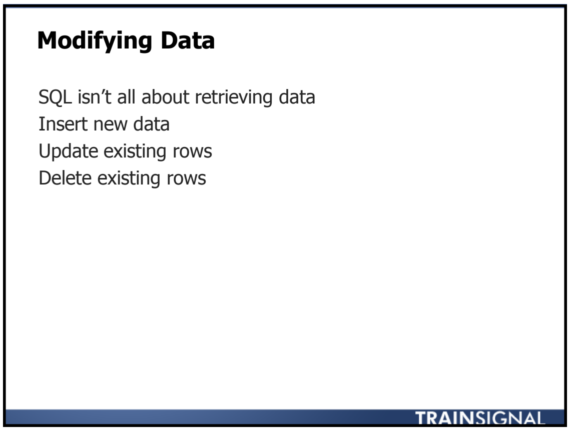


Modifying Data



Modifying Data

SQL isn't all about retrieving data
Insert new data
Update existing rows
Delete existing rows

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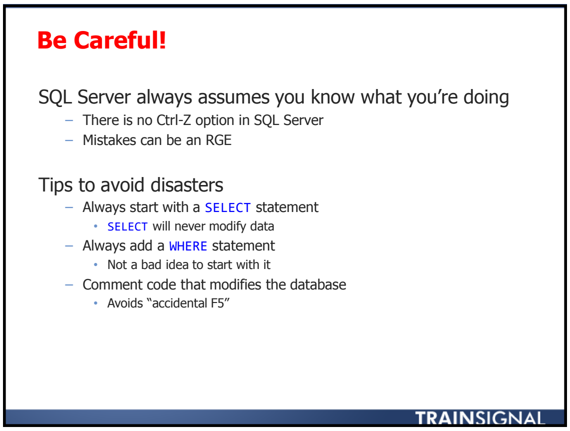


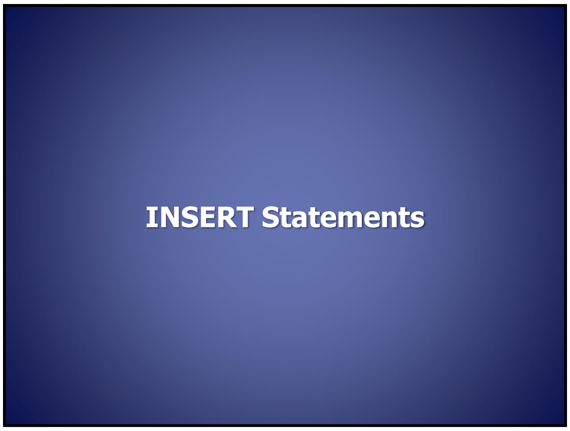
Be Careful!

SQL Server always assumes you know what you're doing

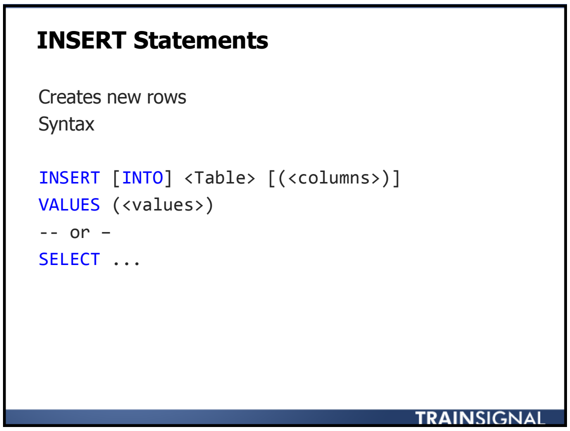
- There is no Ctrl-Z option in SQL Server
- Mistakes can be an RGE

Tips to avoid disasters

- Always start with a `SELECT` statement
  - `SELECT` will never modify data
- Always add a `WHERE` statement
  - Not a bad idea to start with it
- Comment code that modifies the database
  - Avoids "accidental F5"



INSERT Statements



INSERT Statements

Creates new rows

Syntax

```
INSERT [INTO] <Table> [(<columns>)]
VALUES (<values>)
-- or –
SELECT ...
```

Providing Data

Column list is optional

- If provided, you must provide data in that order
- If not provided, you must provide data in order of table
  - Skip any column marked as "IDENTITY" (auto-count)
  - Generally not a best practice

Special values

- DEFAULT keyword to indicate you wish to use default value
- NULL keyword for null values

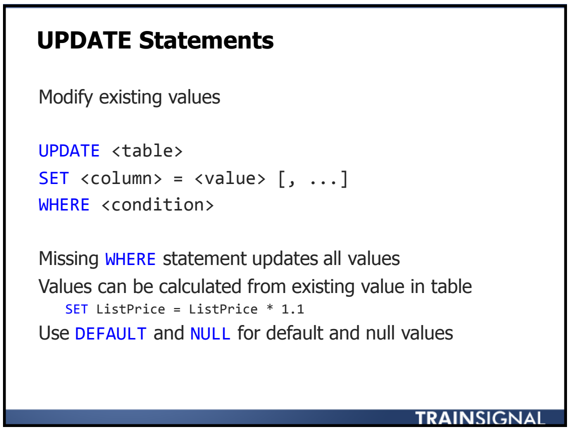
Providing Data

Row constructors

- Provide multiple rows in one INSERT statement
- Separate value lists with commas

```
INSERT ...
VALUES (<values>)
     , (<values>)
```

UPDATE Statements



UPDATE Statements

Modify existing values

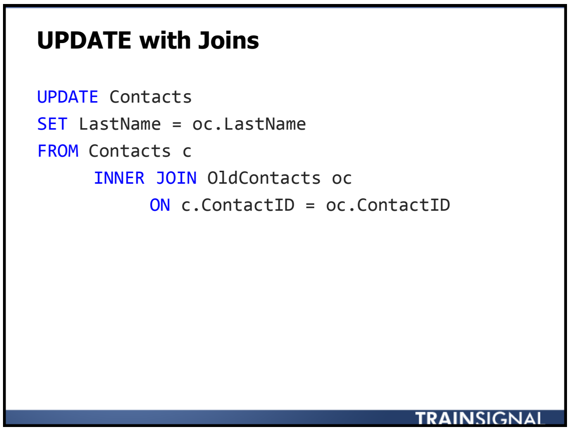
```
UPDATE <table>
SET <column> = <value> [, ...]
WHERE <condition>
```

Missing `WHERE` statement updates all values

Values can be calculated from existing value in table

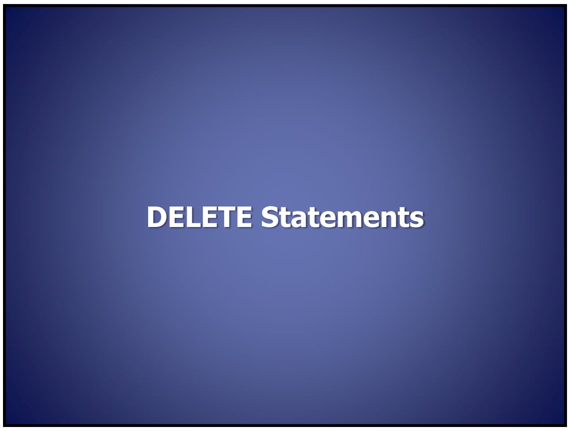
```
SET ListPrice = ListPrice * 1.1
```

Use `DEFAULT` and `NULL` for default and null values

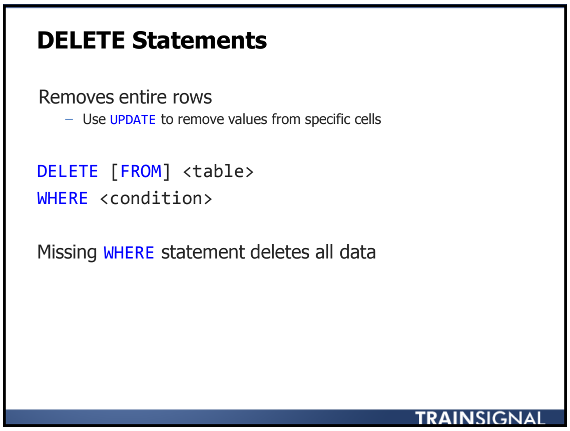


UPDATE with Joins

```
UPDATE Contacts
SET LastName = oc.LastName
FROM Contacts c
     INNER JOIN OldContacts oc
          ON c.ContactID = oc.ContactID
```



DELETE Statements



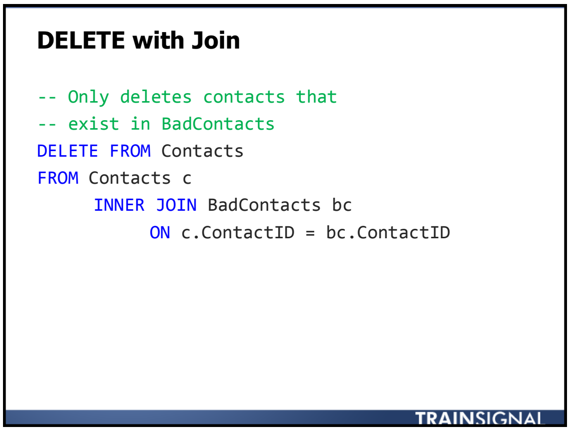
DELETE Statements

Removes entire rows

- Use UPDATE to remove values from specific cells

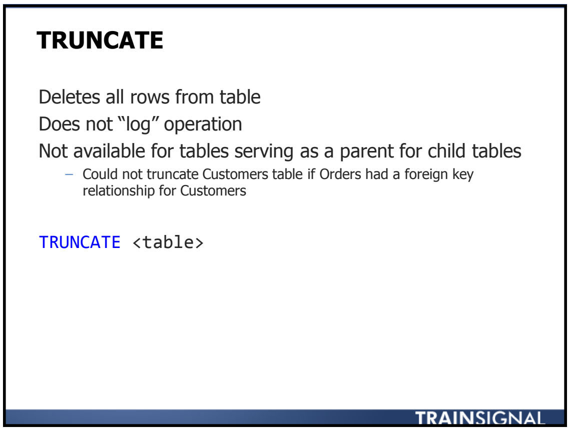
```
DELETE [FROM] <table>
WHERE <condition>
```

Missing WHERE statement deletes all data



DELETE with Join

```
-- Only deletes contacts that
-- exist in BadContacts
DELETE FROM Contacts
FROM Contacts c
     INNER JOIN BadContacts bc
          ON c.ContactID = bc.ContactID
```



TRUNCATE

Deletes all rows from table

Does not “log” operation

Not available for tables serving as a parent for child tables

- Could not truncate Customers table if Orders had a foreign key relationship for Customers

```
TRUNCATE <table>
```