



# Constraints & Triggers

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## Triggers – Demo (Part 1)

## Features covered in demo – in two parts

- Before and After; Insert, Delete, and Update
- New and Old
- Conditions and actions
- Triggers enforcing constraints
- Trigger chaining
- Self-triggering, cycles
- Conflicts
- Nested trigger invocations

## Introduction video used SQL standard

- No DBMS implements exact standard
- Some deviate considerably

In both syntax and behavior!

## Postgres >

- Expressiveness/behavior = full standard  
row-level + statement-level, old/new row & table
- Cumbersome & awkward syntax

## SQLite >>

- Row-level only, immediate activation  
⇒ no old/new table

## MySQL

- Row-level only, immediate activation  
⇒ no old/new table
- Only one trigger per event type
- Limited trigger chaining

## SQLite – row-level triggers, immediate activation

- For Each Row implicit if not specified
- No Old Table or New Table
- No Referencing clause
  - Old and New predefined for Old Row and New Row
- Trigger action: SQL statements in Begin-End block

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Simple college admissions database

**College**(cName, state, enrollment)

**Student**(sID, sName, GPA, sizeHS)

**Apply**(sID, cName, major, decision)