



Constraints & Triggers

Motivation and overview

Constraints and Triggers

- For relational databases
- SQL standard; systems vary considerably

(Integrity) Constraints 

constrain allowable database states

Triggers 

monitor database changes,
check conditions and initiate actions

Integrity Constraints

Impose restrictions on allowable data, beyond those imposed by structure and types

Examples

Integrity Constraints

Impose restrictions on allowable data, beyond those imposed by structure and types

Why use them?



Integrity Constraints

Impose restrictions on allowable data, beyond those imposed by structure and types

Classification



Declaring and enforcing constraints

Declaration

- With original schema 
- Or later 

Enforcement

- Check after every modification
- Deferred constraint checking

Triggers

“Event-Condition-Action Rules”

When *event* occurs, check *condition*; if true, do *action*

Examples

Triggers

“Event-Condition-Action Rules”

When *event* occurs, check *condition*; if true, do *action*

Why use them?



Triggers in SQL

“Event-Condition-Action Rules”

```
Create Trigger name  
Before|After|Instead Of events  
[ referencing-variables ]  
[ For Each Row ]  
When ( condition )  
action
```

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