Triggers (Chapter 7)

ON <event> WHEN <cond> DO <event>

**Activation**
- Triggering event requested

**Consideration**
- After activation, when cond evaluated
  - immediately
    - e.g. nuclear power plant (real-time monitoring)
  - deferred
    - e.g. student registration system (student trying to register for a course)

**Execution**
- If consideration deferred, then so is execution; if consideration immed, then two options: deferred or immed.
  - before
    - last two strange, but OK, since event scheduled for execution by DBMS
  - after
    - extension of application logic (AOP) e.g. limit raises to 5%

**Trigger granularity**
- row vs. statement-level
  - e.g. for each row inserted in Transcript, make sure room capacity not exceeded for course in question
  - e.g. after DELETE, UPDATE stmt of CrsCode, Sem on Transcript, delete all tuples in view Idle Teaching

before- vs. after-trigger: depends on when cond. evaluated WRT execution of event

instead-of-trigger
- e.g. maintain Works_In view when tuple deleted by setting P.DeptId to NULL

before-trigger
- can't modify DB; maintain integrity constraints; e.g. rollback course reg. txn if room capacity exceeded