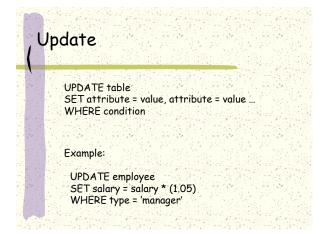
Action Statements INSERT DELETE UPDATE

Insert Individual Insert INSERT INTO student VALUES ('Patel', 'Deepa', 14662, null, 'GRD', 'COMP-SCI', 'Evanston', 2003); Multiple Insert INSERT INTO student SELECT * FROM ... INSERT INTO student SELECT * FROM mschaefer.student;

Insert Partial Record INSERT INTO student (LastName, FirstName, SID) VALUES ('Patel', 'Deepa', 14662); Effects: • not null constraints • 'default values

Insert Partial Full Record Even if all values are present: INSERT INTO student(LastName, FirstName, SID, SSN, Career, Program, City, Started) VALUES ('Patel', 'Deepa', 14662, null, 'GRD', 'COMP-SCI', 'Evanston', 2003); Why ?

elete	
Selective deletion	
DELETE FROM table WHERE condition;	
Delete all records in table	
DELETE FROM table;	



Integrity Violations? What if we insert a record with a duplicate p.k.? What else can we do wrong with INSERT, DELETE, UPDATE? Referential Triggered Action I We can specify actions if referential integrity of a foreign key is violated SET NULL SET DEFAULT CASCADE Specified as ON DELETE/UPDATE SET NULL/CASCADE/DEFAULT Warning: Oracle supports green options directly Referential Triggered Action II Example (CASCADE) Example (SET NULL) CREATE TABLE studentgroup (FOREIGN KEY (PresidentID) CREATE TABLE dependent (... FOREIGN KEY (essn) REFERENCES student(SID) ON DELETE SET NULL REFERENCES employee(ssn) ON DELETE CASCADE, ...) Example (SET DEFAULT) CREATE TABLE employee (.... dno INT NOT NULL DEFAULT 1, FOREIGN KEY (dno) REFERENCES department(dnumber) ON DELETE SET DEFAULT ...)

Referential Triggered Action III Find further examples for ON UPDATE CASCADE ON DELETE CASCADE ON DELETE SET NULL ON DELETE SET NULL ON DELETE SET DEFAULT Foreign keys in student database?