Assertions in SQL
Assertions

- How to test if and FD is satisfied?

- ASSERTIONS:

CREATE ASSERTION assertion_name CHECK predicate

Example: We require that the sum of sailors and boats is smaller than 100. Here we need to specify a constraint between two tables:

CREATE ASSERTION SmallClub
CHECK ((SELECT COUNT(S.sid) FROM Sailors S) +
     (SELECT COUNT(B.bid) FROM Boats B) < 100)
Constraints

Constraint: A customer with a loan should have an account with at least 1000 dollars.

create assertion balance_constraint check
(not exists (select * from loan L
    where not exists (select *
        from borrower B, depositor D, account A
        where L.loan_no = B.loan_no
            and B.cname = D.cname
            and D.account_no = A.account_no
            and A.balance >= 1000 ))
)
Another example

customer(customer_name, customer_street, customer_city)

Constraint: Customer city is always not null. Can enforce it with an assertion:

Create Assertion CityCheck Check

( NOT EXISTS ( Select * From customer Where customer_city is null));