CS:5200 Introduction to Database management Systems –Individual Assignment3

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1) Every apartment must be on at least one floor. Express this cardinality constraint as a check constraint.

alter table ApartmentFloor

add constraint ApartmentShouldHaveFloor check (

exists ( select \* from ApartmentFloor af where

af.apartment = id ));

3) A person is not allowed to own more than one apartment in the same building.

Express the ownership constraint above as an assertion.

create assertion OwnsOneApartment check

(not exists

select o.isOwnedBy from Owner o, Person p, Apartment a, Building b

where p.id = o.isOwnedBy

and o.owns = a.id

and a.containedIn=b.id

group by (o.isOwnedBy)

having count(o.owns) > 1);

5) Give the user 'Mary' read-only access to all of her apartment information.

create view MaryInformationView as

select a.number, b.address, o.starts, o.ends, af.floor, r.area, rt.description , rtn.name

from apartment a, building b, owner o, apartmentfloor af, room r, roomtype rt, roomtypename rtn, person p

where

p.name= 'Mary'

and o.isownedby= p.id

and a.id = o.owns

and b.id = a.containedIn

and a.id= af.apartment

and r.containedIn=o.owns

and r.containedin=a.id

and rtn.type=rt.id

and rt.id=r.type;

grant select on MaryInformationView to ‘Mary’;

6) Develop a trigger that will record an error message whenever an apartment acquires more than one kitchen. You may use either the syntax in the textbook or the MySQL syntax.

Create trigger ApartmentHasMoreKitchen

before insert

on Room

for each row

referencing old row as oldrow, new row as newrow

when newrow.containedIn = oldrow.containedIn and newrow.type=oldrow.type

and oldrow.type = ( select type from RoomTypeName where name=’kitchen’)

insert into error (message) values (‘Apartment has more than one kitchen ’);

7) Relational Algebra

