-- 9. Create View Asian Rivers
create view Asian_Rivers as
                      (select distinct name, length from encompasses, river, geo_River
                       where continent = 'Asia'
                       and encompasses.country = geo_River.country
                       and geo_River.river = river.name);

-- 11. Adding population density column to the country table
alter table country add pop_density real;

-- 12. Adding population density data
update country set pop_density = population / area;

-- 13. Countries whose population density differs
-- by a factor of 10,000 or more
select T.name, S.name from country T, country S
where T.pop_density / S.pop_density > 10000;

-- 14. 5th largest economy in the world
select name, gdp, t.rank_seq
from (select country, gdp, rank() over (order by gdp desc) rank_seq from economy where gdp > 0) t, country
where country.code = t.country and t.rank_seq = 5;

-- 15. Countries that span more than one continent
select name, T.continent, count(S.continent)
from country, encompasses T, encompasses S
where code = T.country and code = S.country and T.percentage < 100
group by name, T.continent;

-- 16. Triggering addition of host country to
-- membership of new organizations
create or replace trigger New_organization_trigger
after insert
  on Organization
  for each row
begin
  insert into Is_member
     (Country, Organization, Type)
  values
end;
/
;
-- 17. Projected population of Australia in 2010
select c.Population* power(1+ p.Population_growth/100, 3)
from Country c, Population p
where p.Country = c.Code and c.Name = 'Australia';

-- 18. Euro_percentage table
create table Euro_Percentage as
with Europe_Population as
     (select sum(c.Population) E_pop
      from Country c, Encompasses e
      where c.Code = e.Country and e.Continent = 'Europe'
     group by e.Continent)
select c.Name as Name,
     c.Population / Europe_Population.E_pop*100 as Percentage
from Country c, Encompasses e, Europe_Population
where c.Code = e.Country and e.Continent = 'Europe';

-- 19. Countries 3 hop away from Turkey
create table hop1 (c1 varchar(32), c2 varchar(32));
create table hop2 (c1 varchar(32), c2 varchar(32));
create table hop3 (c1 varchar(32), c2 varchar(32));
insert into hop1 (select country1, country2 from borders, country where name = 'Turkey' and code = country1) union (select country2, country1 from borders, country where name = 'Turkey' and code = country2);
insert into hop2 (select a.c1, b.country2 from hop1 a, borders b where a.c2 = b.country1 union (select a.c1, b.country1 from hop1 a, borders b where a.c2 = b.country2));
insert into hop3 (select hop2.c1, borders.country2 from hop2, borders where hop2.c2 = borders.country1 union (select hop2.c1, borders.country1 from hop2, borders where hop2.c2 = borders.country2));
select name from country, (select distinct c2 result from hop3 minus (select distinct c2 from hop2 union (select distinct c2 from hop1))) where result = code;

--20. Total population of Asia
select sum(c.Population* e.Percentage/100)
from Country c, Encompasses e
where c.Code = e.Country and e.Continent = 'Asia'
group by e.Continent;