1) По клубу определить его страну

$\pi_{\text{cl.name, co.name}}$ (Club $\bowtie_{\text{cl.clubId = ncr.clubId}}$
National_Championship_Result $\bowtie_{\text{ncr.natChampId = nc.natChampId}}$
National_Championship $\bowtie_{\text{nc.countryId = co.countryId}}$ Country)

clubCountries (clubName, countryName) :-
    Club (clubId, clubName),
    National_Championship_Result (natChampId, clubId, _, _),
    National_Championship (natChampId, _, _, countryId),
    Country (countryId, countryName)

2) Все страны, представители которых были в исполнительном комитете

select name as countryName from Country where ∃ Candidate as c
(c.countryId = Country.countryId) and ∃ Commiteeman as cm (cm.candId =
c.candId)

commiteeCountries (countryName) :-
      Country (countryId, countryName),
      Candidate (candId, _, _, countryId),
      Commiteeman (_, candId, _)

3) Количество побед определенной страны на чемпионате мира

$\text{count}_{\text{countryId, \{\}}}$ ($\sigma_{\text{countryId = id and result = 'winner'}}$(World_Cup_Result))

4) Количество побед каждой из стран на чемпионате мира

$\pi_{\text{co.name, wins}}$ (Country $\circ \varepsilon_{\text{wins = (count}_{\text{countryId, \{co.name\}}}}$ ($\sigma_{\text{countryId = id and}}$
$_{\text{result = 'winner'}}$(Country $\bowtie$ World_Cup_Result))

5) Количество золотых мячей у конкретного игрока

$\text{count}_{\text{playerId, \{\}}}$ ($\sigma_{\text{playerId = id}}$ (Golden_Ball))

6) Количество золотых мячей у каждого игрока

$\pi_{\text{firstName, lastName, goldenBalls}}$ (Player $\circ \varepsilon_{\text{goldenBalls = (count}_{\text{playerId, \{firstName, lastName\}}}}$
(Player $\bowtie$ Golden_Ball)

7) Региональная федерация, к которой относится клуб

π $_{rf.name}$ (Regional_Federation $\bowtie_{rf.regFedId\,=\,rit.regFedId}$
Regional_International_Tournament $\bowtie$
Regional_Tournament_Result $\bowtie_{nc.countryId\,=\,c.countryId}$
National_Championship
$\bowtie_{nc.natChampId\,=\,ncr.natChampId}$
$\sigma_{ncr.clubId\,=\,id}$ (National_Championship_Result))

RegionalFederationForClub (regFedName) :-
        Regional_Federation (regFedId, _, regFedName),
        Regional_International_Tournament (regTournId, _, regFedId),
        Regional_Tournament_Result (countryId, regTournId, _, _),
        National_Championship (natChampId, _, _, countryId),
        National_Championship_Result (natChampId, id, _, _)

где id - идентификатор клуба, для которого хотим узнать региональную федерацию

8) Все страны, которые выигрывали чемпионат мира

select c.name as countryName from Country as c where $\exists$
World_Cup_Result as wcr (c.countryId = wcr.countryId and wcr.result = 'winner')

CountriesWhichWinsWorldCup (countryName) :-
                Country (countryId, countryName),
                World_Cup_Result (CountryId, _, 'winner')

9) Все страны, которые выигрывали региональные турниры

select c.name as countryName, rit.name as tournamentName from Country as c where $\exists$ Regional_International_Tournament as rit and $\exists$ Regional_Tournament_Result as rtr (c.countryId = rtr.countryId and rit.regTournId = rtr.regTournId and rtr.result = 'winner')

CountriesWhichWinsRegionalTournament (countryName, tournName) :-
        Country (countryId, countryName),
        Regional_International_Tournament (regTournId, tournName, _),
        Regional_Tournament_Result (countryId, regTournId, _, 'winner')

10) Все клубы, которые выигрывали национальные чемпионаты

select c.name as clubName, nc.name as tournamentName from Club as c where ∃ National_Championship as nc and ∃ National_Championship_Result as ncr (c.clubId = ncr.clubId and nc.natChampId = ncr.natChampId and ncr.place = 1)

ClubsWhichWinsNationalChampionships (clubName, tournamentName) :-
        Club (clubId, clubName),
        National_Championship (natChampId, tournamentName, _, _),
        National_Championship_Result (natChampId, clubId, _, 1)

11) Все клубы, которые выигрывали региональные турниры

select c.name as clubName, rct.name as tournamentName from Club as c where ∃ Regional_Club_Tournament as rct and ∃ Regional_Club_Tournament_Result as rctr (c.clubId = rctr.clubId and rct.regClubTournId = rctr.regClubTournId and rctr.result = 'winner')

ClubsWhichWinsRegionalTournament (clubName, tournName) :-
Club (clubId, clubName),
Regional_Club_Tournament (regClubTournId, tournName, _),
Regional_Club_Tournament_Result (clubId, regClubTournId, _, 'winner')

12) Клубы, потратившие наибольшую сумму на трансферы

π c.name, money (Club ∘ ε money = (sum c.name, {t.price} (Club ⋈c.clubId = t.toClubId Transfer)

13) Клубы, выручившие наибольшую сумму с трансферов

π c.name, money (Club ∘ ε money = (sum c.name, {t.price} (Club ⋈c.clubId = t.fromClubId Transfer)