Homework 2 - Relational Algebra

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1

$\Pi_{name,id}(\sigma_{playpos="center"}(player))$

2

$\Pi_{s.totalpoints,s.year}(\sigma_{p.Id=s.playerId \wedge\ p.name="pistolpete"}(\rho_p(player) X \rho_s(stats)))$

3

$\text{Temp}_1 \leftarrow \Pi_{M.name,M.email,\rho_{cid}}(\text{G}_{count-distinct(CertificateId)})(\sigma_{M.id=MC.managerId}$
$(\rho_M(manager) X \rho_{MC}(ManagerCertificate)))$
$\Pi_{Temp_1.name,Temp_1.email}(\sigma_{Temp_1.cid=2}(Temp_1))$

4

$\Pi_{p.name}(\sigma_{p.id=play.playerID \wedge play.Gameid=Game.GameId \wedge Game.result="win" \wedge Game.PlayingVenue="ThePit"}$
$(\rho_p(player) X play X Game)))$
[1]

[1]Assumption- Question 3 query has to be re-write to avoid having, therefore my new query is here below for question3. The relational algebra is based on this query. select A.name, A.Email from (SELECT A.Name, A.Email, count(distinct B.CertificateId) as cID FROM manager A, ManagerCertificate B WHERE A.ID=B.ManagerID GROUP BY A.Name, A.Email) A where A.cID=2

5

$\sigma_{D.email=T.Docemail(}\rho_D(Doctor)X\rho_T(takeExam))$

6

$\Pi_{G.Date,G.playingVenue,G.result}(\sigma_{p.id=play.playerId}\wedge_{play.GameID=G.GameID}\wedge_{p.name=\text{"}Pistolpete\text{"}}$
$(\rho_p(player)XplayX\rho_G(Game)))$
$\cap$
$\Pi_{G.Date,G.playingVenue,G.result}(\sigma_{p.id=play.playerId}\wedge_{play.GameID=G.GameID}\wedge_{p.name=\text{"}LoboLouie\text{"}}$
$(\rho_p(player)XplayX\rho_G(Game)))$

7

$\text{Temp}_1 \leftarrow \Pi_{G.GameId}(\sigma_{p.id=plays.playerId}\wedge_{play.GameID=G.GameID}\wedge_{p.name=\text{"}LoboLouie\text{"}}$
$(\rho_p(player)XplayX\rho_G(Game)))$

$\Pi_{G.Date,G.playingVenue,G.result}(\sigma_{p.name=\text{"}Pistolpete\text{"}}\wedge_{G.Gameid=Temp1.GameID}$
$(\rho_p(player)XTemp_1X\rho_G(Game)))$

8

$\text{Temp}_1 \leftarrow \text{G}_{avg(totalpoints)}(stats)$

$\Pi_{p.name,p.id}(\sigma_{p.id=s.player.id}\wedge_{s.totalpoints>Temp_1}(\rho_p(player)XTemp_1X\rho_s(stats)))$

9

$\Pi_{p1.name,p2.name,p1.birthday}(\sigma_{p1.id\neq p2.id}\wedge_{p1.birthday=p2.birthday}(\rho_{p1}(player)X\rho_{p2}(player)))$

10

$\text{G}_{sum(totalpoints)}(\sigma_{year=2016}(stats))$