Question 1:

SELECT j.Name, j.Id

FROM Judges j

INNER JOIN Evaluations e ON j.Id = e.JudgeId

GROUP BY j.Name, j.Id

HAVING COUNT(DISTINCT e.ProjectId) > 3

AND MAX(e.Points) < 5;

RA:

temp1 = Judges ⨝\_{j.Id = e.JudgeId} Evaluations

temp2 = γ\_{j.Name, j.Id} (temp1)

temp3 = σ\_{COUNT(DISTINCT e.ProjectId) > 3 AND MAX(e.Points) < 5} (temp2)

result = π\_{j.Name, j.Id} (temp3)

Where clause

SELECT j.Name, j.Id

FROM Judges j

INNER JOIN (

SELECT JudgeId

FROM Evaluations

GROUP BY JudgeId

HAVING COUNT(DISTINCT ProjectId) > 3

) e ON j.Id = e.JudgeId

WHERE NOT EXISTS (

SELECT \*

FROM Evaluations

WHERE JudgeId = j.Id

AND Points >= 5

)

RA:

temp1 = π JudgeId (σ COUNT(DISTINCT ProjectId) > 3 (Evaluations))

temp2 = Judges ⨝ temp1

temp3 = σ NOT EXISTS (σ Points >= 5 (Evaluations)) (temp2)

result = π Name, Id (temp3)

View:

CREATE VIEW ProjectJudgesCount AS

SELECT p.ProjectId, p.Title, p.TeamId, COUNT(jp.JudgeId) AS JudgesCount

FROM Projects p

LEFT JOIN JudgeProject jp ON p.ProjectId = jp.ProjectId

GROUP BY p.ProjectId, p.Title, p.TeamId;