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EECS 341

Intro Databases

Homework 2

**1. Find the names of the employees as well as their graduation years who worked only on one project.**

SELECT Employee.EmpName, Graduate.GradYear

FROM Employee, Graduate

WHERE Employee.EmpId = Graduate.EmpId AND

(SELECT COUNT(EmpProject.EmpId)

FROM EmpProject

WHERE EmpProject.EmpId = Employee.EmpId) = 1

**2. Find the names of the projects that have all of its employees from the same university (i.e., display Project1 if all the employees who joined Project1 were all graduated from the same university).**

SELECT Project.Name

FROM Project

WHERE (SELECT COUNT(DISTINCT Graduate.UnivId)

FROM Graduate, EmpProject

WHERE Project.ProjId = EmpProject.ProjId AND

Graduate.EmpId = EmpProject.EmpId) = 1

**3. For each project, display its name as well as the number of employees who are currently working on it.**

SELECT Project.ProjName, COUNT(EmpProject.EmpId)

FROM Project, EmpProject

WHERE Project.ProjId = EmpProject.ProjId

AND EmpProject.EndDate IS NOT NULL

**4. Find the names of the project(s) that were managed by the maximum number of different managers (if a manager managed the same project many times at different time frames, count him/her as one).**

SELECT Project.ProjId, MAX(DISTINCT ProjectManager.MgrId) maxMgrs, Project.ProjName

FROM Project, ProjectManager

WHERE Project.ProjId = ProjectManager.ProjId

**5. Find the name(s) of the university/universities that graduated the maximum number of managers.**

SELECT University.UnivName, MAX(Graduate.UnivId)

FROM ProjectManager, Graduate, University

WHERE ProjectManager.MgrId = Graduate.EmpId

AND Graduate.UnivId = University.UnivId

**6. For each employee, say E, display the name of E as well as the number of projects that E has joined (if an employee worked on the same project at different time intervals, count it as one project). Also, display the average number of days E has worked in a project.**

(For this question, I assumed that “Display the average number of days E has worked in a project” meant that I should tally how many days E has worked in a given project.)

SELECT Employee.EmpName, COUNT(DISTINCT EmpProject.ProjId),

durations.time

FROM Employee, EmpProject,

(SELECT SUM(DATEDIFF(CASE

WHEN EmpProject.EndDate IS NULL THEN NOW()

WHEN EmpProject.EndDate IS NOT NULL THEN

EmpProject.EndDate

END,

EmpProject.StartDate)) AS time

FROM EmpProject

GROUP BY EmpProject.ProjId

) durations

WHERE Employee.EmpId = EmpProject.EmpId

**7. For each project, say P, display P’s name as well as the name of the manager(s) who managed P for the longest period. Notice that P may be managed by more than one manager at different periods with the same length.**

SELECT mgrs.EmpId, mgrs.time

FROM (SELECT Employee.EmpId, SUM(DATEDIFF(CASE

WHEN EmpProject.EndDate IS NULL THEN NOW()

WHEN EmpProject.EndDate IS NOT NULL THEN EmpProject.EndDate

END,

EmpProject.StartDate)) AS time

FROM Employee, ProjectManager

WHERE Employee.EmpId = ProjectManager.MgrId

GROUP BY ProjectManager.ProjId

) mgrs

EXCEPT

SELECT mgrs1.EmpId, mgrs.time

FROM mgrs mgrs1, mgrs mgrs2

WHERE mgrs1.time < mgrs2.time

**8. Find the name of the current managers who worked as non-managers before on the projects they are currently managing.**

(For this question, I assumed there would be a constraint that Managers are not also listed in the EmpProject table because if they manage the project, then they aren’t just regular employees that work on the project).

SELECT Employee.EmpName

FROM Employee, ProjectManager, EmpProject

WHERE ProjectManager.MgrId = Employee.EmpId

AND ProjectManager.EndDate IS NULL

AND ProjectManager.ProjId = EmpProject.ProjId

AND EmpProject.EmpId = ProjectManager.MgrId