

Advanced SQL ONLINE A1

Time: 40 minutes

- For each instructor, print their ID, name, department name, and the number of other instructors who have at least one building in common where they teach, along with the number of such building(s), and sort by the number of instructors. You cannot use JOIN in the main query.

ID	NAME	DEPT_NAME	NUM_INSTRUCTORS	NUM_BUILDING
22591	D'Agostino	Psychology	26	10
74420	Voronina	Physics	26	6
99052	Dale	Cybernetics	22	5
77346	Mahmoud	Geology	21	5
41930	Tung	Athletics	19	3
36897	Morris	Marketing	19	5
6569	Mingoz	Finance	19	5

- Find the advisors who advise the highest number of students along with the total credits they offer. You must write at least one subquery to do this.

DEPT_NAME	INSTRUCTOR_NAME	NUM_STUDENTS	TOT_CRED
Geology	Mahmoud	54	19
Psychology	Soisalon-Soininen	54	(Null)

- Retrieve the students who have taken more non-departmental courses than departmental ones. You cannot use JOIN in the main query.

ID	NAME	DEPT_NAME
7620	Potry	Mech. Eng.
43658	Meneses	Astronomy
65714	Hughes	English
37339	Warren	Psychology
38555	Vogt	Elec. Eng.
73908	Cruz	Biology
4438	Yoshioka	Cybernetics

4. For each department, find out the average number of credit hours spent by its students for its departmental courses. The average should be calculated by dividing the total number of credits (departmental courses only) taken by the students of that department divided by the number of students who have taken departmental courses. You cannot use JOIN in the main query.

DEPT_NAME	TOTAL_CREDIT_HOURS
Accounting	3.44
Astronomy	3.43
Athletics	3.61
Biology	3
Civil Eng.	3.32
Comp. Sci.	3.73
Cybernetics	3.23

5. Retrieve the students who have taken at least two courses where one is offered by their advisors and another is offered by some other teacher of their own department. You cannot use JOIN or GROUP_BY in the main query.

ID	NAME	DEPT_NAME
73908	Cruz	Biology
15883	Marques	Math
44551	Nguyen	Astronomy
71768	Stephenn	Geology
97658	Baier	Finance
96178	Hay	Civil Eng.
69132	Sciore	Statistics