

Homework: Advanced SQL (w3)

[New Attempt](#)

Due Apr 23 by 11:59pm **Points** 4 **Submitting** a file upload

Introduction

The objective of this assignment is to practice writing queries in SQL.



What you must do

- Consider the following relational schema:

Emp (eid: integer, ename: string, age: integer, salary: real)


Works (eid: integer, did: integer, pc_time: integer)

Dept (did: integer, dname: string, budge: real, managerid: integer)

The underlined attributes are keys for their relations. Note that a manager is an employee as well and their manager id and employee id are the same. An employee can work in more than one department. The pct_time field of the works relation shows the percentage of time that a given employee works in a given department and is always greater than zero.

A sample database ([sample db.sql](https://canvas.oregonstate.edu/courses/1939345/files/98616655?wrap=1) (<https://canvas.oregonstate.edu/courses/1939345/files/98616655?wrap=1>)) 

(https://canvas.oregonstate.edu/courses/1939345/files/98616655/download?download_frd=1)) is provided with this assignment and the output of the correct queries over this sample database is given in each part of this question. You may use this sample database to test or debug your queries.

We have created an account for each student on the MySQL server of our department. The access guide to the MySQL server ([database access guide.txt](https://canvas.oregonstate.edu/courses/1939345/files/98734072?wrap=1) (<https://canvas.oregonstate.edu/courses/1939345/files/98734072?wrap=1>)) 

(https://canvas.oregonstate.edu/courses/1939345/files/98734072/download?download_frd=1)) is also posted with this assignment. You can import the

sample database to your account on the MySQL server and use it to ensure that your queries are correct. Notice that your SQL queries must return the correct result over every possible database instance of the aforementioned schema for the questions and not only over the sample database.

Write the following queries in SQL.

(a) Return names of every employee who works in the "Hardware", "Software", and "Research" departments (0.5 point).

The answer on the sample database is:

ename
Shirish Ossenbruggen

(b) Return the names of every department without any employee (0.5 point).

The answer on the sample database is:

dname
Business Development

(c) Print the managerid of managers who manage only departments with budgets greater than \$1.5 million. (0.5 point)

The answer on the sample database is:

managerid
110511

(d) Print the name of employees whose salary is less than or equal to the salary of every employee (0.5 point).

The answer on the sample database is:

ename
Antonio Lavante

(e) Print the enames of managers who manage the departments with the largest budget (0.5 point).

The answer on the sample database is:

ename

Tonny Butterworth

(f) Print the name of every department and the average salary of the employees of that department. The department must have a budget more than or equal to \$50. (0.5 point)

The answer on the sample database is:

dname	average employee salary
Software	48291
Human Resources	717092.5
Research	490439.6666666667
Hardware	61842.125
Customer Service	40000

(g) Print the managerids of managers who control the largest amount of total budget. As an example, if a manager manages two departments, the amount of total budget for him/her will be the sum of the budgets of the two departments. We want to find managers that have max total budget. (1 point)

The answer on the sample database is:

managerid

111692

(h) Print the name of every employee who works only in the "Hardware" department. (1 point)

The answer on the sample database is:

ename

Alex Dalas

Sergio Ravarez

Antonio Lavante

Tonny Conner

Gladys Cooper

Rodney Ferreri

Arie Staelin

What to turn in

The assignment is to be turned in before Midnight (by 11:59pm) on April 23. You may turn in the solutions to this assignment as a PDF file through Canvas. The solutions should be produced using editing software programs, such as LaTeX or Word, otherwise they will not be graded. The assignment may be done in groups of two students. Each group may submit only one file that contains the full name, OSU email, and ONID of every member of the group.

Grading criteria

Each complete query has 0.5 point. Incomplete answers get partial points depending on how accurate their returned results are.

Assignment 2 SQL

Criteria	Ratings				Pts
1a	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1b	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1c	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1d	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1e	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1f	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1g	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts
1h	0.5 pts Full Marks	0.45 pts Minor Issue	0.35 pts Major Issue	0 pts No Marks	0.5 pts

Criteria	Ratings	Pts
		Total Points: 4