Homework 4

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Assigned: Feb. 18, 2021
Due: Feb. 25, 2021 at 9am
Maximum: 100pts.
Note: This homework is to be done by each student individually. No help besides the textbook should be taken. *Copying any answers or part of answers from other sources (including your colleagues) will earn you a grade of zero.* All homework is to be typed. Handwritten submissions will result in a 20% grade penalty.
Purpose of homework: To become familiar with the foundations of relational database querying.

Problem 1: SQL Queries About Employment. [100 pts]

```
Relation Emp
eid Integer,
ename Char Width 255,
age Integer,
salary Float,
PRIMARY KEY (eid);

relation Works
eid Integer,
did Integer,
pct_time Integer,
PRIMARY KEY (eid,did),
FOREIGN KEY (eid) REFERENCES Emp (eid),
FOREIGN KEY (did) REFERENCES Dept (did);

relation Dept
did Integer,
dname Char Width 255,
budget Float,
managerid Integer,
PRIMARY KEY (did),
FOREIGN KEY (managerid) REFERENCES Emp (eid);
```

1. Find the names and ages of each employee who works in both the Hardware department and the Software department.

2. For each department with more than 10 full-time-equivalent employees (i.e., where the part-time and full-time employees add up to at least that many full-time employees), print the did together with the number of employees that work in that department. Note: for a full-time employee the pct_time=100 and for a part-time employee the pct_time<100. Full-time equivalent employees means that the sum of their pct_time is at least 100).

3. Retrieve the name of each employee whose salary exceeds the budget for all of the departments that they work in.

4. Find the managerids of managers who manage only departments with budgets greater than $1 million.

5. Find the enames of managers who manage the departments with the largest budgets.

Create SQL statements for each of the 5 queries. Explicitly state any assumptions that you are making when designing your queries.

You need to run the SQL queries in this homework on ORACLE. This will help to you to increase your confidence that your design is syntactically correct (compiles without errors) and semantically correct (does what you expect it to do on some data set).

For this, you need to run your SQL queries against a common data set that we will provide to you. Show the queries and the resulting output tables for each of your queries on our sample data (to be provided on the course webpage).

In addition, you need to design an additional second test data set of your own, explain what you are aiming to test, and undertake testing of your solution to verify that it indeed correct.

SQL QUERIES

1)
```
SELECT ename, age
FROM emp e, works w, dept d
WHERE e.eid = w.eid
   AND d.did = w.did
   AND d.dname = 'Software'
INTERSECT
SELECT ename, age
FROM emp e, works w, dept d
WHERE e.eid = w.eid
   AND d.did = w.did
   AND d.dname = 'Hardware';
```

2)
SELECT w.did, COUNT(eid) AS numOfEmployees, SUM(pct_time)
FROM works w, dept d
WHERE d.did = w.did
GROUP BY w.did
HAVING SUM(pct_time) > 1000;

3)
SELECT e.ename
FROM emp e, works w, dept d
WHERE e.eid = w.eid AND d.did = w.did
GROUP BY e.ename, e.salary
HAVING e.salary > MAX(d.budget);

4)
SELECT d.managerid
FROM dept d, emp e
WHERE d.managerid = e.eid AND d.budget > 1000000;

5)

SELECT e.ename
FROM emp e, dept d
WHERE e.eid = d.managerid
AND d.budget IN (SELECT MAX(dept.budget) FROM dept);

COMMON DATA SET RESULTS

1)

ENAM	AGE
Mary Johnson	44
Stanley Browne	23

2

DID	NUMOFEMPLOYEES
6	20
2	20

3)

ENAME
Patricia Jones
Linda Davis

4)

MANAGERID
141582651
287321212
548977562
578875478
489456522

5)

ENAME
Linda Davis

TEST DATA SET

NOTE: Before each test query, DELETE All of the Previous Data Set:

DELETE FROM works;

DELETE FROM dept;

DELETE FROM emp;

1) Have 2 employees work in all departments(name: "emp1" age: 1,name: "emp2", age:2), have 2 employees work in all departments except software (name: "emp3" age: 3,name: "emp4", age:4), have 2 people work in all departments except hardware(name: "emp5" age: 5,name: "emp6", age:6), work in all departments except hardware and software (name: "emp7" age: 7,name: "emp8", age:8).

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (100, 'emp1', 1, 10);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (200, 'emp2', 2, 20);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (300, 'emp3', 3, 30);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (400, 'emp4', 4, 40);

```
INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (500,  'emp5',  5, 50);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (600,  'emp6',  6, 60);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (700,  'emp7',  7, 70);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (800,  'emp8',  8, 80);


INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(1, 'Hardware',
1, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(2, 'Software', 2,
NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(3, 'dept3', 3,
NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(4, 'dept4', 4,
NULL);


INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 4, 100);


INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 4, 100);


INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 4, 100);
```

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 4, 100);

RESULT:

ENAME	AGE
emp1	1
emp2	2

2) Have 1 Department ("dept1") with 11 full—time employees, Have 1 Department ("dept2") with 22 part-time employees but who add up to 11 full-time equivalent employees, have 1 Department ("dept3") have a mix of full and part time employees, which add up to 11 full-time

equivalent employees. Have 1 Department ("dept4") with 10 ull—time employees, Have 1 Department ("dept5") with 20 part-time employees but who add up to 10 full-time equivalent employees, have 1 Department ("dept6") have a mix of full and part time employees, which add up to 10 full-time equivalent employees.

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (100, 'emp1', 1, 10);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (200, 'emp2', 2, 20);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (300, 'emp3', 3, 30);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (400, 'emp4', 4, 40);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (500, 'emp5', 5, 50);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (600, 'emp6', 6, 60);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (700, 'emp7', 7, 70);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (800, 'emp8', 8, 80);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (900, 'emp9', 9, 90);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1000, 'emp10', 10, 100);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1100, 'emp11', 11, 110);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1200, 'emp12', 12, 120);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1300, 'emp13', 13, 130);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1400, 'emp14', 14, 140);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1500, 'emp15', 15, 150);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1600, 'emp16', 16, 160);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1700, 'emp17', 17, 170);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1800, 'emp18', 18, 180);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (1900, 'emp19', 19, 190);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (2000, 'emp20', 20, 200);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (2100, 'emp21', 21, 210);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (2200, 'emp22', 22, 220);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(1, 'dept1', 1, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(2, 'dept2', 2, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(3, 'dept3', 3, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(4, 'dept4', 4, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(5, 'dept5', 5, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(6, 'dept6', 6, NULL);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1100, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1100, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1200, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1300, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1400, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1500, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1600, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1700, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1800, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1900, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (2000, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (2100, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (2200, 2, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1100, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1200, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1300, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1400, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1500, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1600, 3, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 4, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 4, 100);

```sql
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 4, 100);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 4, 100);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 4, 100);


INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1100, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1200, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1300, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1400, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1500, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1600, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1700, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1800, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1900, 5, 50);
INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (2000, 5, 50);


INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 6, 100);
```

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 6, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 6, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 6, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 6, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (600, 6, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (700, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (800, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (900, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1000, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1100, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1200, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1300, 6, 50);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (1400, 6, 50);

RESULT

DID	NUMOFEMPLOYEES
1	11
2	22
3	16

3) Have "emp1" work in 3 departments and exceed all the budgets. Have "emp2" work at 3 departments and his salary exceeds some of the budgets. Have "emp3" work at 1 departments and his salary equals the budget. Have "emp4" work at 2 departments and his salary equals 1 and is below the other budget. Have "emp5" work at 3 departments and his salary is less than the budgets.

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (100, 'emp1', 1, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (200, 'emp2', 2, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (300, 'emp3', 3, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (400, 'emp4', 4, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (500, 'emp5', 5, 5000);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(1, 'dept1', 6000, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(2, 'dept2', 6200, NULL);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(3, 'dept3', 5500, NULL);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (100, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (200, 3, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (300, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (400, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 1, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 2, 100);

INSERT INTO works(works.eid, works.did, works.pct_time) VALUES (500, 3, 100);

RESULT

ENAME
emp1
emp2

4) Have 2 managers with id 100 and 200 manage departments with budget greater than 1000000, have 2 managers with id 300 and 400 manage departments with budgets equal to 1000000, and have 2 managers with id 500 and 600 manage departments with budgets less than 1000000

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (100, 'emp1', 1, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (200, 'emp2', 2, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (300, 'emp3', 3, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (400, 'emp4', 4, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (500, 'emp5', 5, 5500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (600, 'emp6', 6, 5500);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(1, 'dept1', 1100000, 100);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(2, 'dept2', 1200000, 200);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(3, 'dept3', 1000000, 300);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(4, 'dept4', 1000000, 400);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(5, 'dept5', 999999, 500);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(6, 'dept6', 100000, 600);

RESULT

MANAGERID
100
200

5) Have 5 departments, where "dept2" and "dept5" both have the maximum budget of 10. The managers for those departments are "emp2" and "emp5" respectively

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (100, 'emp1', 1, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (200, 'emp2', 2, 6500);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (300, 'emp3', 3, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (400, 'emp4', 4, 6000);

INSERT INTO emp (emp.eid, emp.ename, emp.age, emp.salary) VALUES (500, 'emp5', 5, 5500);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(1, 'dept1', 1, 100);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(2, 'dept2', 10, 200);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(3, 'dept3', 2, 300);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(4, 'dept4', 3, 400);

INSERT INTO dept(dept.did, dept.dname, dept.budget, dept.managerid) VALUES(5, 'dept5', 10, 500);

RESULT

ENAME
emp2
emp5

Deliverables:

Students should submit a .pdf file containing the resulting output tables for each query ran on the sample data, as well as the SQL statements they used to execute these 5 queries. The file MUST be a .pdf file.

Submission:

Submit via Canvas. Late submissions will not be accepted.

Submission notes:

1) Include your name on the sheet
2) Be sure that your submission is in .pdf format.
3) Handwritten solutions or pictures of handwritten solutions will not be accepted.