

Week-3

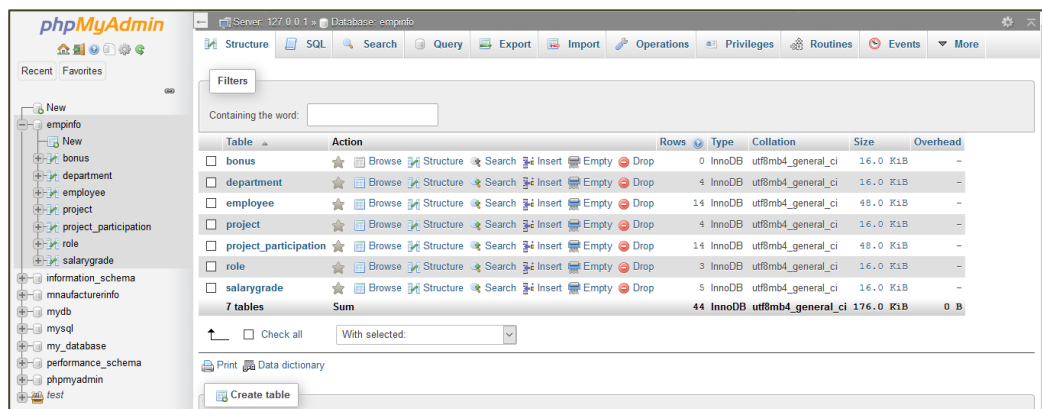
Managing Data in RDBMS using SQL

Lab Task Solution

1. Before starting with the lab task today, check the file which contains sample SQL statements of “EmployeeInfo” database and database tables. Keep the tables defined and ready in the MySQL server. You can copy and paste the statements provided to you step by step to define the tables and populate them with data as it is present in the file.

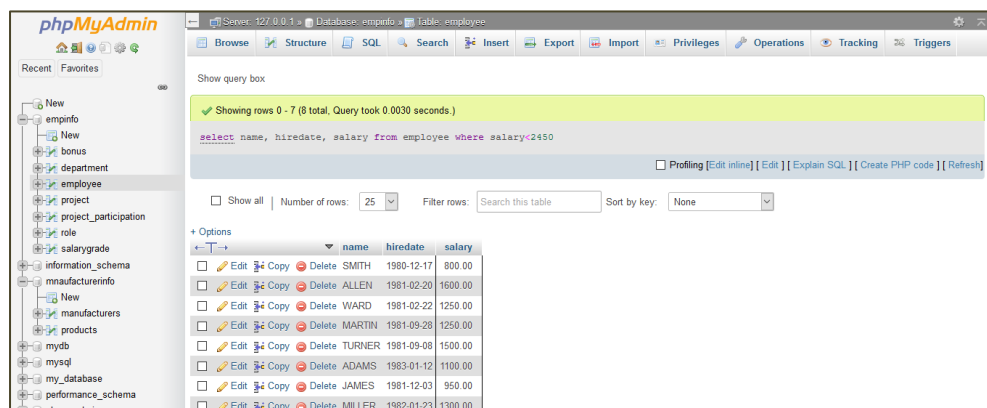
\*\*\*This task SHOULD NOT take you more than 15 minutes.

Ans:



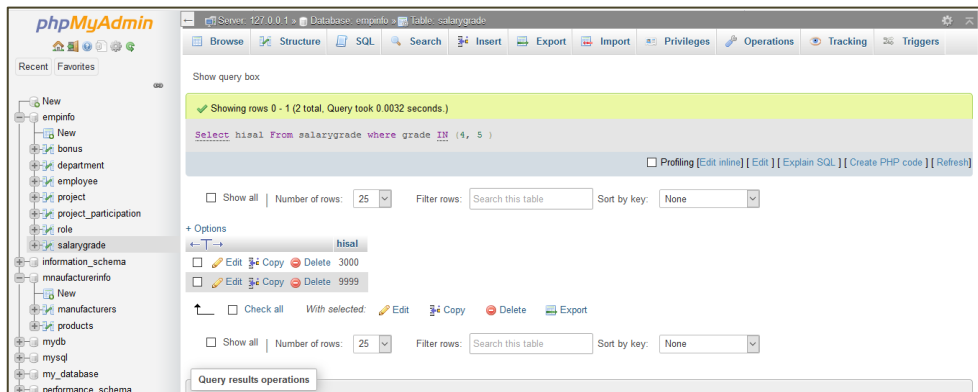
2. In “EmployeeInfo” Database, continue executing the following SQLs:
  - a) Find the employee’s name, hiredate and salary for those, whose salary is no more than 2450.

Ans:



**b) Find the highest salary range for salary grade 4 and 5.**

**Ans:**



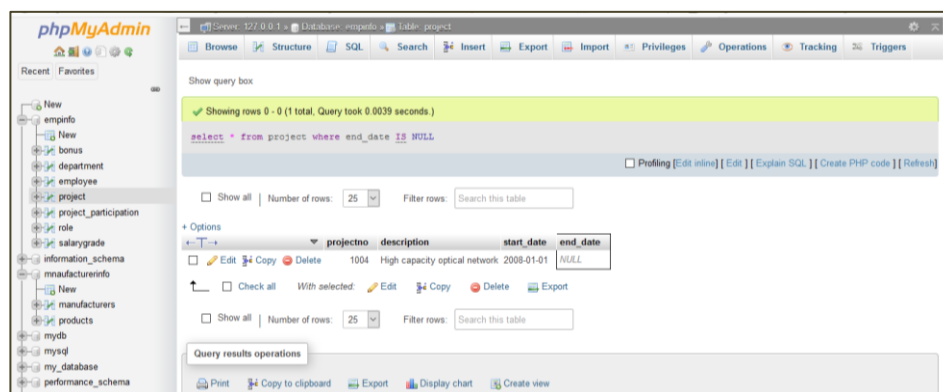
Showing rows 0 - 1 (2 total, Query took 0.0032 seconds.)

```
Select hisal from salarygrade where grade IN (4, 5)
```

hisal
3000
9999

**c) Find the details about all the projects where the “end date” of the project is null.**

**Ans:**



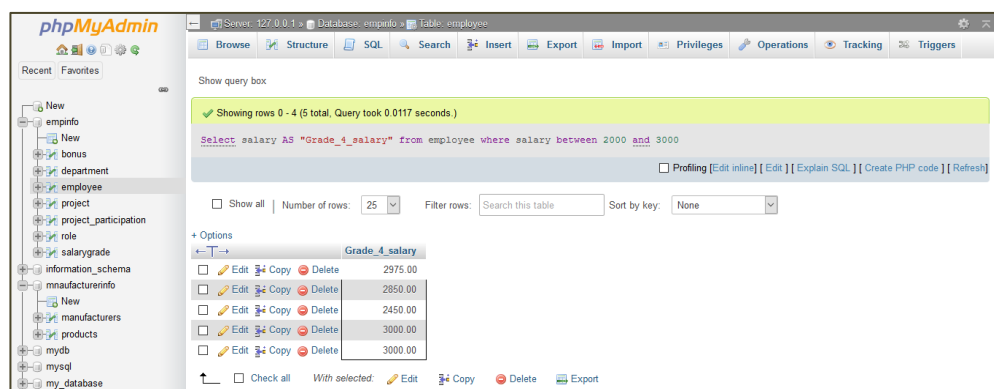
Showing rows 0 - 0 (1 total, Query took 0.0039 seconds.)

```
select * from project where end_date IS NULL
```

projectno	description	start_date	end_date
1004	High capacity optical network	2008-01-01	NULL

**d) Represent the employee’s salary as “Grade\_4\_Salary” whose salary is between 2000 and 3000.**

**Ans:**



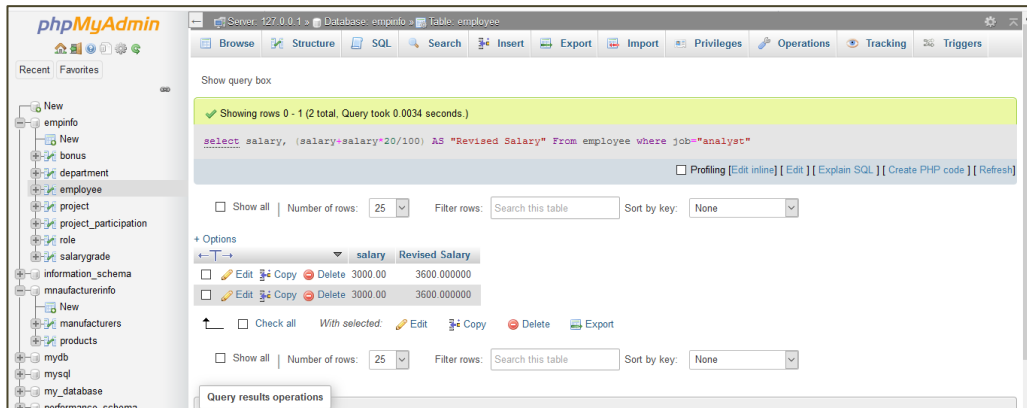
Showing rows 0 - 4 (5 total, Query took 0.0117 seconds.)

```
Select salary AS "Grade_4_salary" from employee where salary between 2000 and 3000
```

Grade_4_salary
2975.00
2850.00
2450.00
3000.00
3000.00

e) Find the employee's salary and "revised salary", increased by 20% who are working as analyst.

Ans:



Server: 127.0.0.1 - Database: empinfo - Table: employee

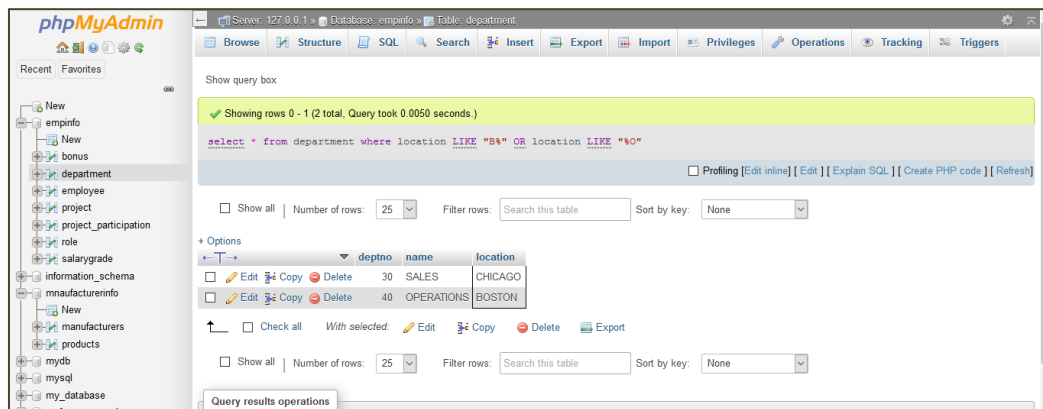
Showing rows 0 - 1 (2 total, Query took 0.0034 seconds.)

```
select salary, (salary*salary*20/100) AS "Revised Salary" From employee where job="analyst"
```

	salary	Revised Salary
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3000.00	3600.000000
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3000.00	3600.000000

f) Find the details from department table where the location of the department starts with letter "B" or ends with letter "O".

Ans:



Server: 127.0.0.1 - Database: empinfo - Table: department

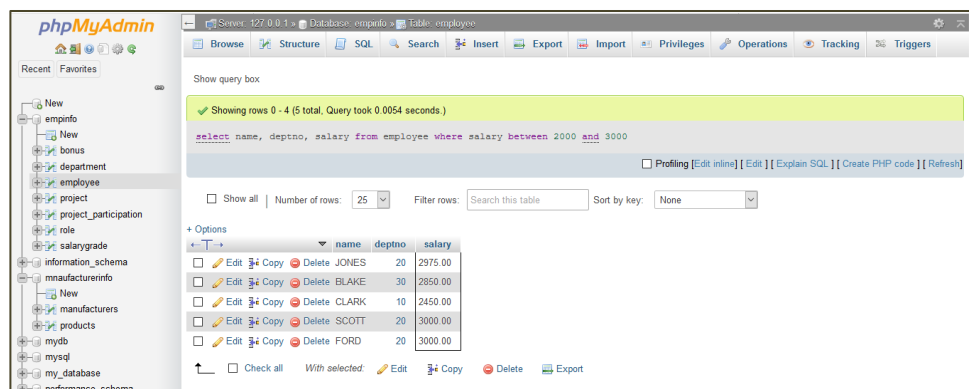
Showing rows 0 - 1 (2 total, Query took 0.0050 seconds.)

```
select * from department where location LIKE "B%" OR location LIKE "%O"
```

	deptno	name	location
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	30	SALES	CHICAGO
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	40	OPERATIONS	BOSTON

g) Find the employees name and the department number where the employee's salaries are between 2000 and 3000.

Ans:



Server: 127.0.0.1 - Database: empinfo - Table: employee

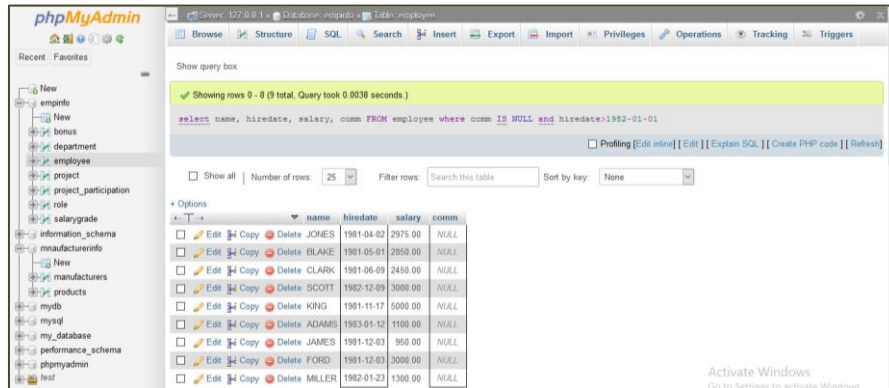
Showing rows 0 - 4 (5 total, Query took 0.0054 seconds.)

```
select name, deptno, salary from employee where salary between 2000 and 3000
```

	name	deptno	salary
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	JONES	20	2975.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	BLAKE	30	2850.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	CLARK	10	2450.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	SCOTT	20	3000.00
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	FORD	20	3000.00

**h) Find employee's name, hiredate, salary and commission where the commission is null and hiredate is after 1982-01-01.**

**Ans:**



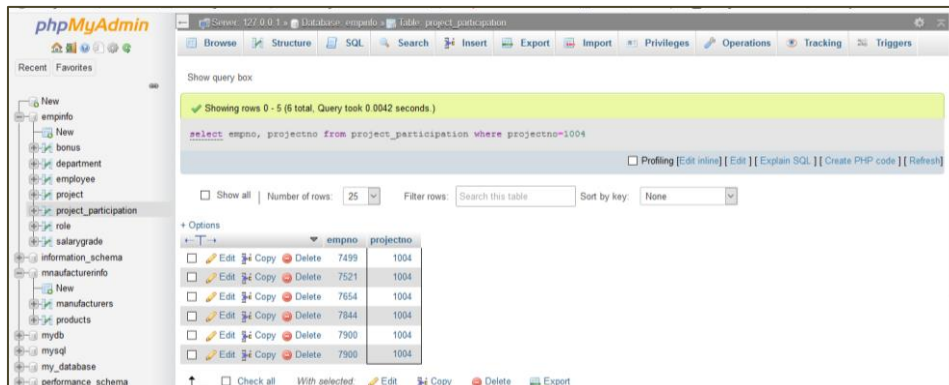
Showing rows 0 - 8 (8 total, Query took 0.0038 seconds)

```
select name, hiredate, salary, comm FROM employee where comm IS NULL and hiredate>1982-01-01
```

name	hiredate	salary	comm
JONES	1981-04-02	2975.00	NULL
BLAKE	1981-05-01	2850.00	NULL
CLARK	1981-06-09	2450.00	NULL
SCOTT	1982-12-09	3000.00	NULL
KING	1981-11-17	5000.00	NULL
ADAMS	1983-01-12	1100.00	NULL
JAMES	1981-12-03	950.00	NULL
FORD	1981-12-03	3000.00	NULL
MILLER	1982-01-23	1300.00	NULL

**i) Find the employee numbers who are working in project number 1004.**

**Ans:**



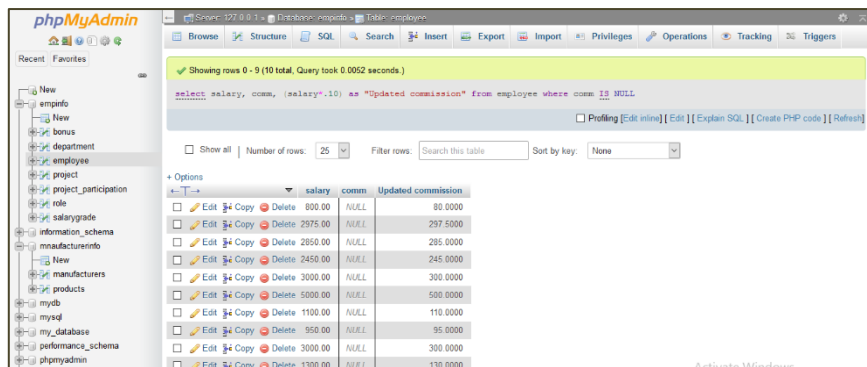
Showing rows 0 - 5 (6 total, Query took 0.0042 seconds)

```
select empno, projectno from project_participation where projectno=1004
```

empno	projectno
7499	1004
7521	1004
7654	1004
7844	1004
7900	1004
7900	1004

**j) Generate a report of the 10% updated commission of the salary for the employees whose commission is null.**

**Ans:**



Showing rows 0 - 9 (10 total, Query took 0.0052 seconds)

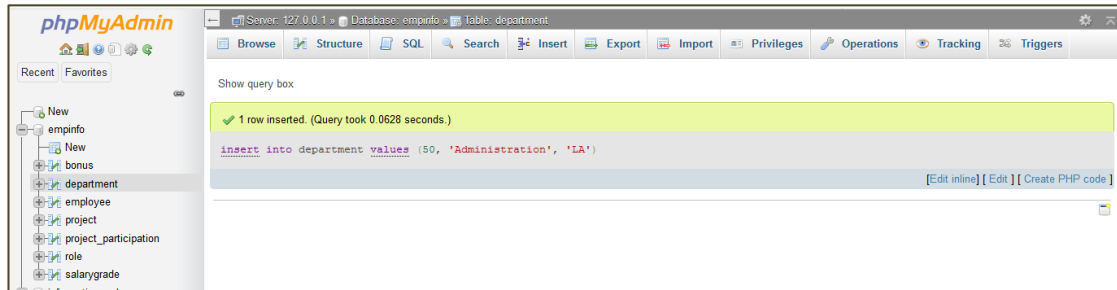
```
select salary, comm, (salary*.10) as "Updated commission" from employee where comm IS NULL
```

salary	comm	Updated commission
800.00	NULL	80.0000
2975.00	NULL	297.5000
2850.00	NULL	285.0000
2450.00	NULL	245.0000
3000.00	NULL	300.0000
5000.00	NULL	500.0000
1100.00	NULL	110.0000
950.00	NULL	95.0000
3000.00	NULL	300.0000
1300.00	NULL	130.0000

k) Insert a new record to the department table:

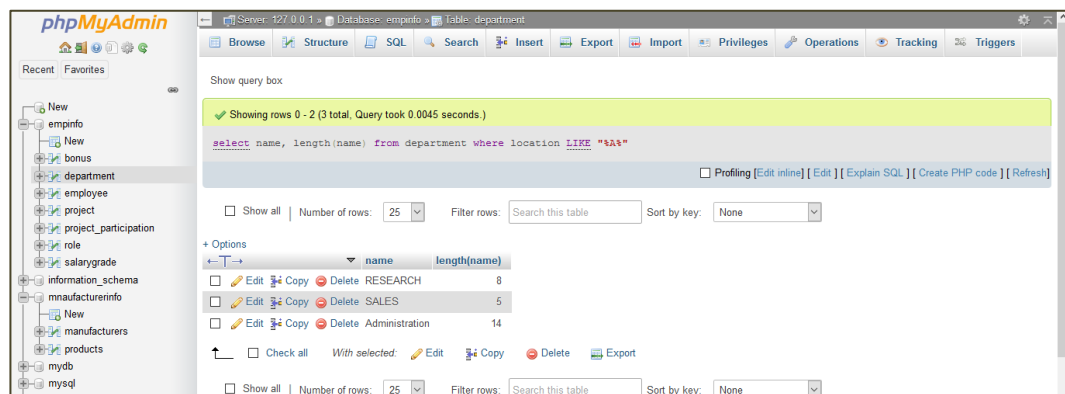
50	ADMINISTRATION	LA
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Ans:



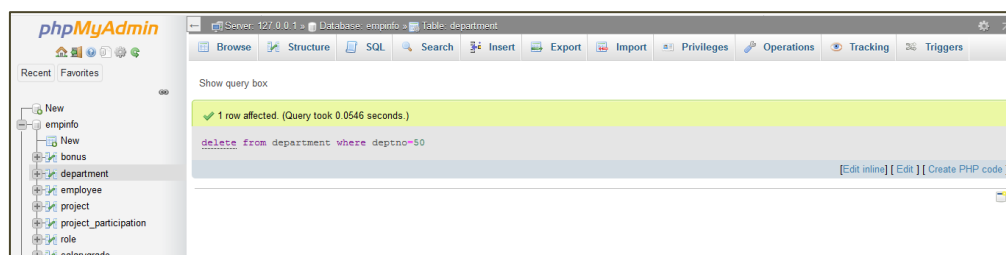
l) Find the length of the department's names have letter "A" in their location names.

Ans:



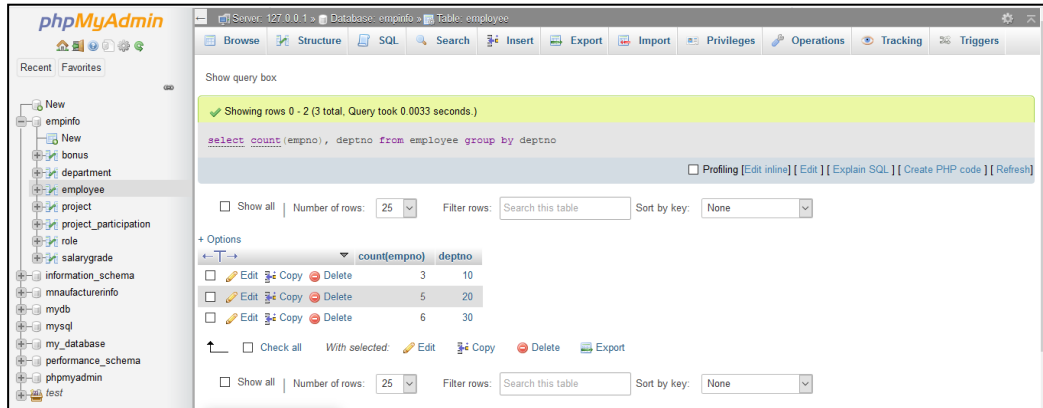
m) Delete the information about department number 50.

Ans:



n) Find department wise total number of employees and department number in the employee table.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The SQL query entered is:

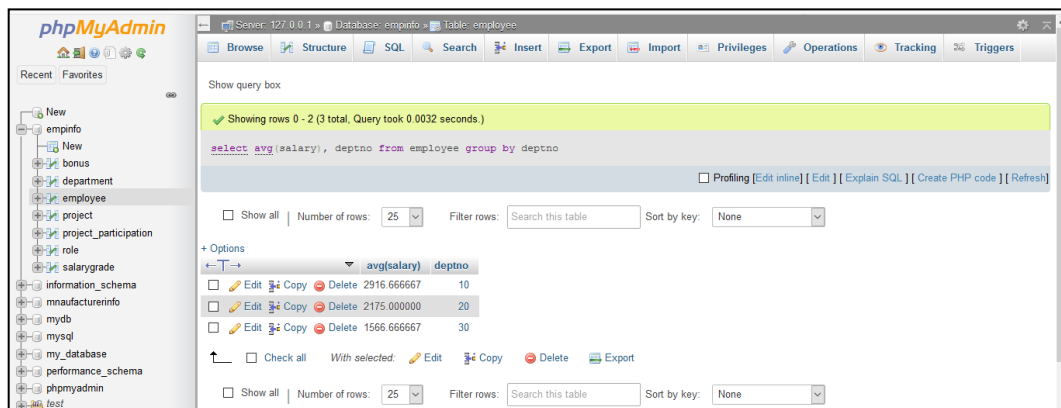
```
select count(empno), deptno from employee group by deptno
```

The results show 3 rows, representing the total number of employees for each department:

count(empno)	deptno
3	10
5	20
6	30

o) Find the average of the salaries for each department.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The SQL query entered is:

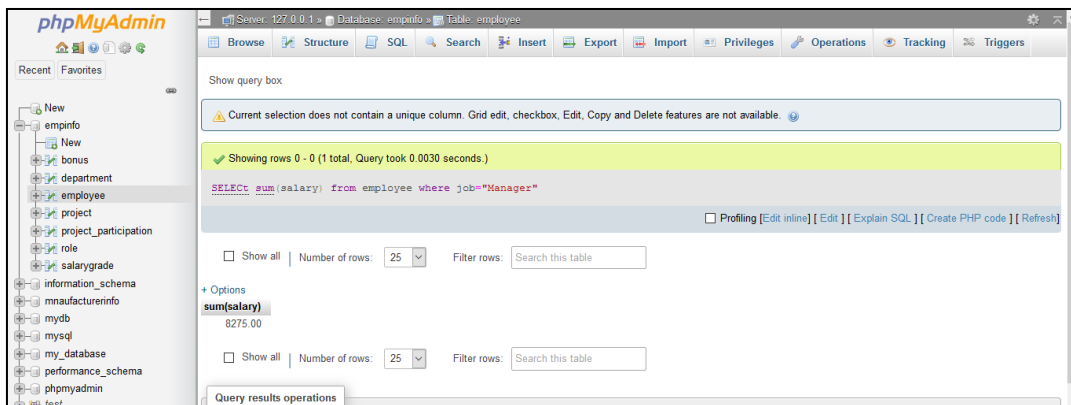
```
select avg(salary), deptno from employee group by deptno
```

The results show 3 rows, representing the average salary for each department:

avg(salary)	deptno
2916.666667	10
2175.000000	20
1566.666667	30

p) Find the summation of the salaries for the job “manager”.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The SQL query entered is:

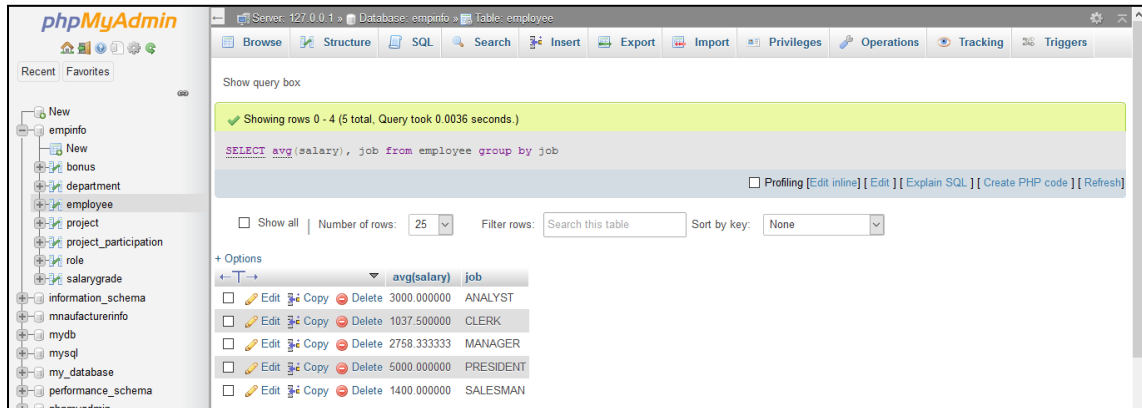
```
SELECT sum(salary) from employee where job="Manager"
```

The results show 1 row, representing the summation of salaries for the job 'manager':

sum(salary)
8275.00

q) Find the average of the salary for each type of job.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The query box contains the following SQL query:

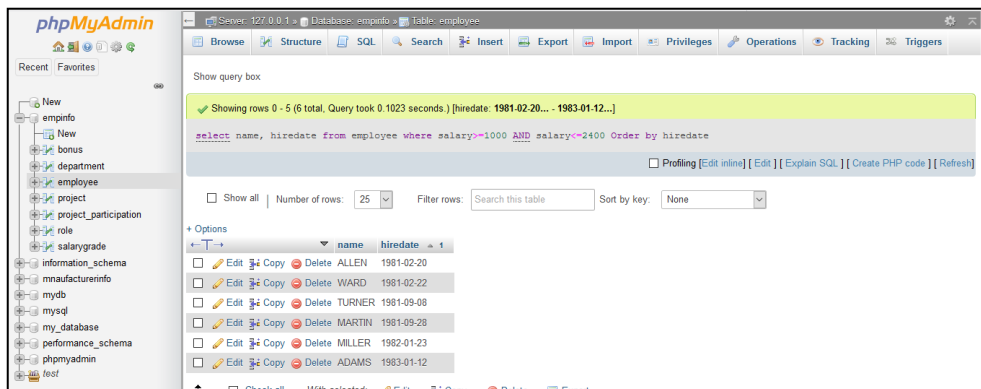
```
SELECT avg(salary), job from employee group by job
```

The results are displayed in a table with two columns: 'avg(salary)' and 'job'.

avg(salary)	job
3000.000000	ANALYST
1037.500000	CLERK
2758.333333	MANAGER
5000.000000	PRESIDENT
1400.000000	SALESMAN

r) Find the employee's name and hire date whose salaries are not more than 2400 and not less than 1000 order by the hire date.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The query box contains the following SQL query:

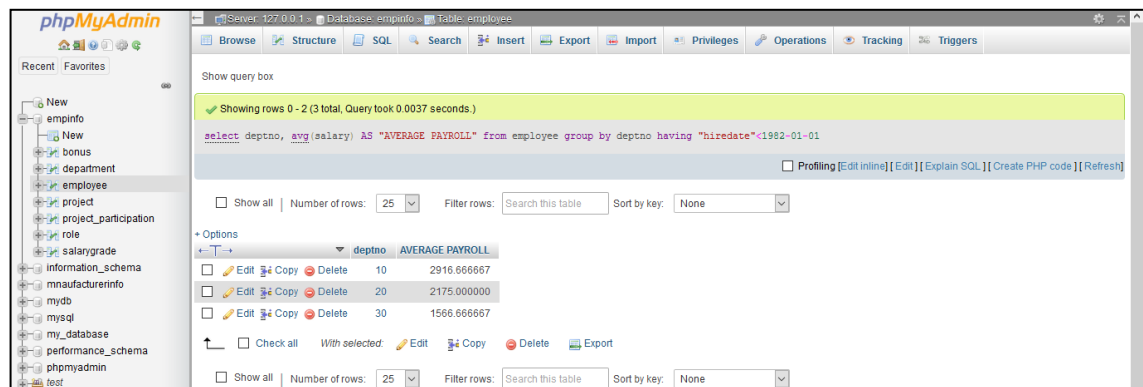
```
select name, hiredate from employee where salary >= 1000 AND salary <= 2400 Order by hiredate
```

The results are displayed in a table with two columns: 'name' and 'hiredate'.

name	hiredate
ALLEN	1981-02-20
WARD	1981-02-22
TURNER	1981-09-08
MARTIN	1981-09-28
MILLER	1982-01-23
ADAMS	1983-01-12

s) Find the department number and department wise average salaries to be presented as "average payroll" only for those whose hire date is before 1982-01-01.

Ans:



The screenshot shows the phpMyAdmin interface with the 'employee' table selected. The query box contains the following SQL query:

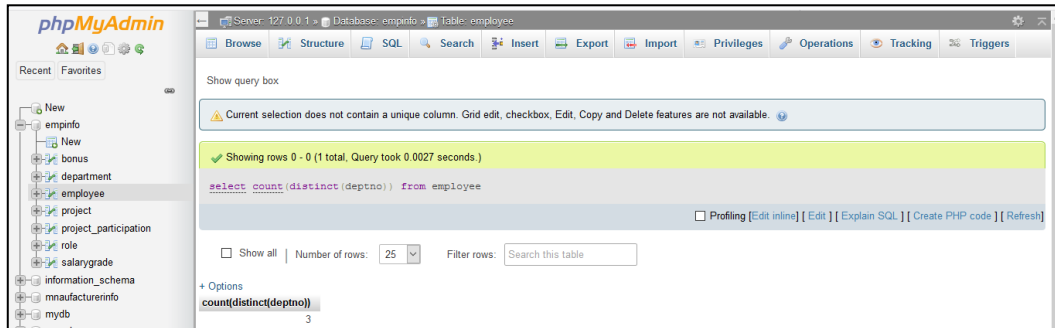
```
select deptno, avg(salary) AS "AVERAGE PAYROLL" from employee group by deptno having "hiredate" < 1982-01-01
```

The results are displayed in a table with two columns: 'deptno' and 'AVERAGE PAYROLL'.

deptno	AVERAGE PAYROLL
10	2916.666667
20	2175.000000
30	1566.666667

t) Find the total number of distinct departments in the employee table.

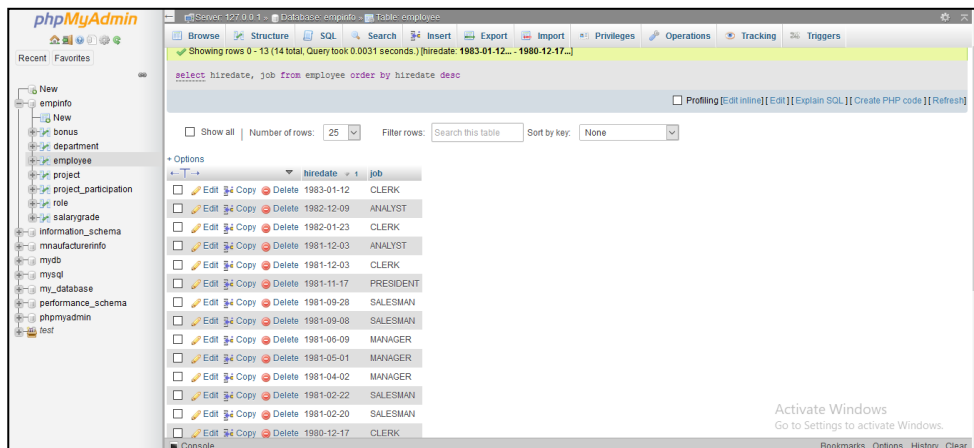
Ans:



The screenshot shows the phpMyAdmin interface for the 'empinfo' database. The 'employee' table is selected. The SQL query box contains the query: `select count(distinct(deptno)) from employee`. The result shows 3 distinct departments.

u) Find the employees hire date and job in a descending order of their hire date.

Ans:

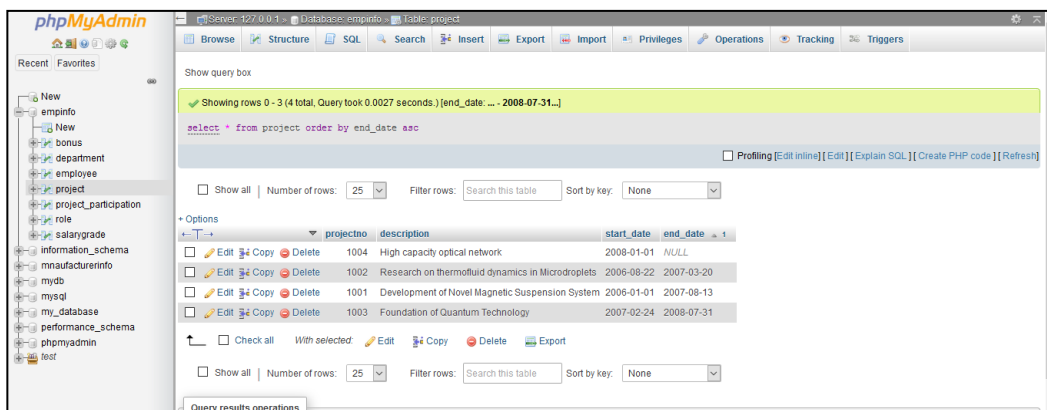


The screenshot shows the phpMyAdmin interface for the 'empinfo' database. The 'employee' table is selected. The SQL query box contains the query: `select hiredate, job from employee order by hiredate desc`. The result shows a list of employees with their hire dates and jobs, ordered in descending order of hire date.

hiredate	job
1983-01-12	CLERK
1982-12-09	ANALYST
1982-01-23	CLERK
1981-12-03	ANALYST
1981-12-03	CLERK
1981-11-17	PRESIDENT
1981-09-28	SALESMAN
1981-09-08	SALESMAN
1981-06-09	MANAGER
1981-05-01	MANAGER
1981-04-02	MANAGER
1981-02-22	SALESMAN
1981-02-20	SALESMAN
1980-12-17	CLERK

v) Display the project details order by the end date in ascending order.

Ans:



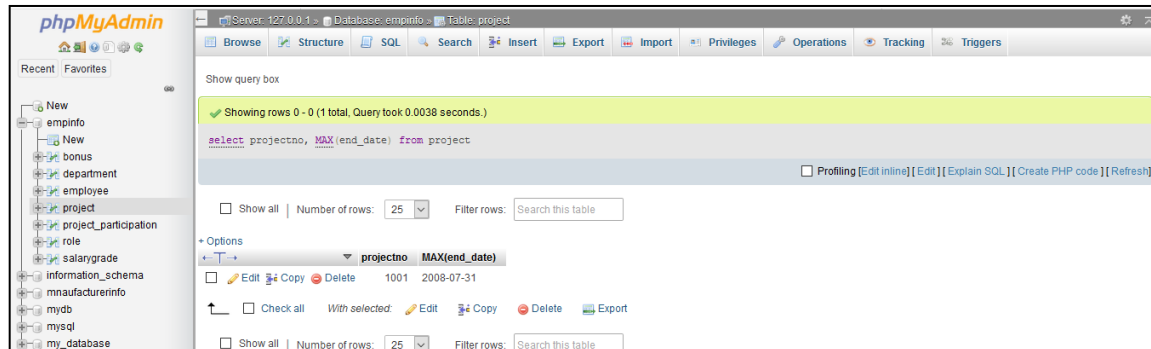
The screenshot shows the phpMyAdmin interface for the 'empinfo' database. The 'project' table is selected. The SQL query box contains the query: `select * from project order by end_date asc`. The result shows a list of projects with their details, ordered in ascending order of end date.

projectno	description	start_date	end_date
1004	High capacity optical network	2008-01-01	NULL
1002	Research on thermofluid dynamics in Microdroplets	2006-08-22	2007-03-20
1001	Development of Novel Magnetic Suspension System	2006-01-01	2007-08-13
1003	Foundation of Quantum Technology	2007-02-24	2008-07-31



w) Find the latest project ending date and its project number

Ans:



The screenshot shows the phpMyAdmin interface. On the left is a sidebar with a database tree. The main area displays a SQL query and its results.

Database: empinfo > Table: project

SQL Query:

```
select projectno, MAX(end_date) from project
```

Results:

projectno	MAX(end_date)
1001	2008-07-31