DBMS
Lab Assignment-IV

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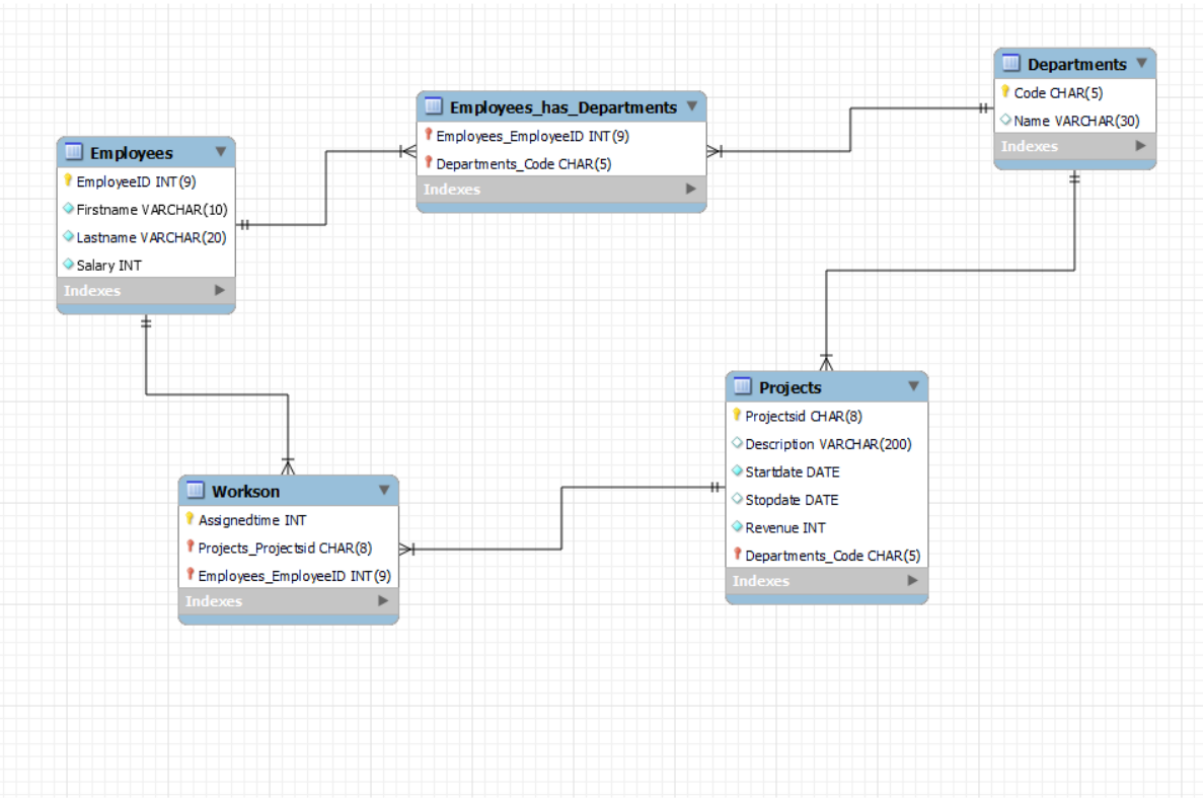
Aim: The Aim of this lab assignment is to work upon the employee database which was created in last lab assignment. Also, to use where from, a select clause in MySQL workbench and also to make sure that we can relate any two tables in the database through a proper relationship.

Experiment: In this experiment we are able to work on following things;

1. Create an employee database.
2. Create an employee table, which has details of employees.
3. Create a project table which includes projectID.
4. Create a department table so it helps to figure out various department's responsibility.
5. Create a workson table, where we applied where from, a select clause to find out employees who work for more than a specific given time.

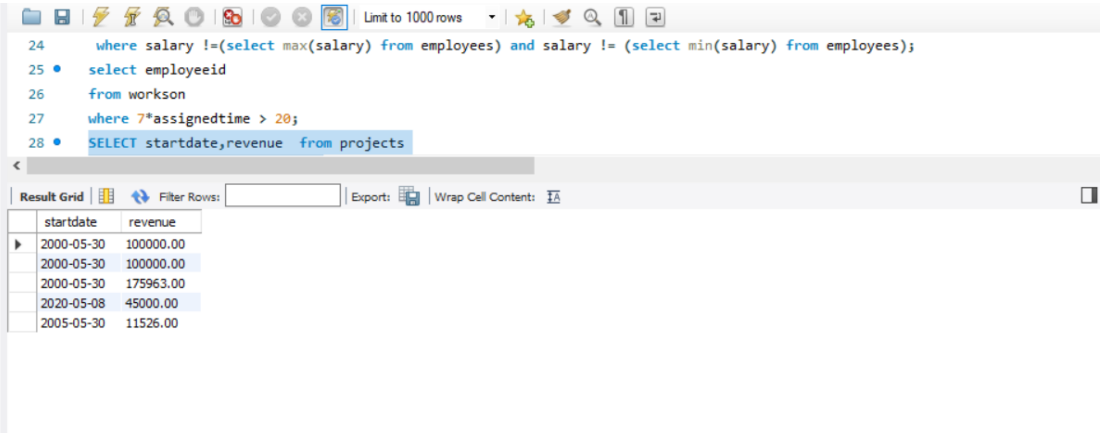
Schema Diagram:



DBMS
Lab Assignment-IV

Results:

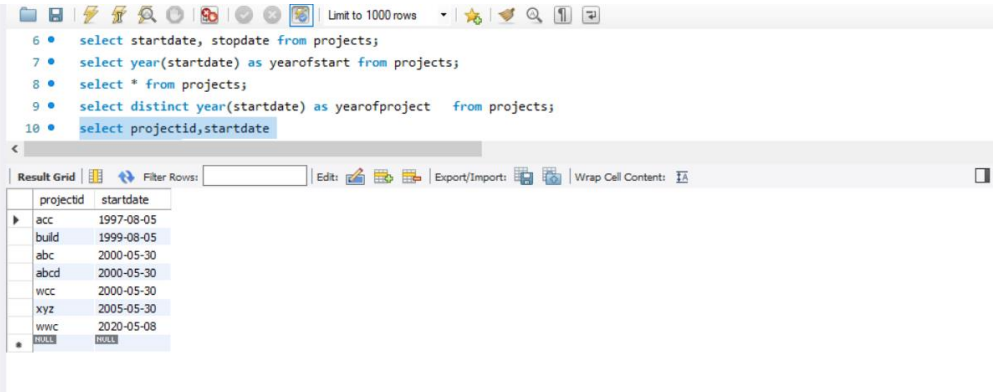
Q1: List the “magical” projects that have not started (indicated by a start date in the future or NULL) but are generating revenue.



```
24    where salary !=(select max(salary) from employees) and salary != (select min(salary) from employees);
25    select employeeid
26    from workson
27    where 7*assignedtime > 20;
28    SELECT startdate,revenue  from projects
```

startdate	revenue
2000-05-30	100000.00
2000-05-30	100000.00
2000-05-30	175963.00
2020-05-08	45000.00
2005-05-30	11526.00

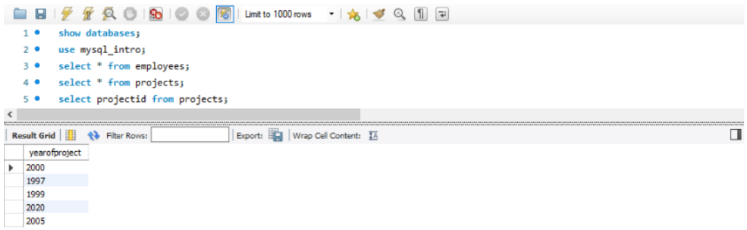
Q2: Find the project ID and duration of each project.



```
6   select startdate, stopdate from projects;
7   select year(startdate) as yearofstart from projects;
8   select * from projects;
9   select distinct year(startdate) as yearofproject   from projects;
10  select projectid,startdate
```

projectid	startdate
acc	1997-08-05
build	1999-08-05
abc	2000-05-30
abcd	2000-05-30
wcc	2000-05-30
xyz	2005-05-30
wwc	2020-05-08

Q3: Find the years a project started. Remove duplicates?



```
1  show databases;
2  use mysql_intro;
3  select * from employees;
4  select * from projects;
5  select projectid from projects;
```

yearofproject
2000
1997
1999
2020
2005

There was a duplicate year 2000, so that is removed.

Q4: Find the IDs of employees assigned to a project that is more than 20 hours per week. Write three queries using 20-, 40-, and 60-hour work weeks?

DBMS
Lab Assignment-IV

```
21 • select employeeid from employees;
22 • select * from workson;
23 • select * from employees
24    where salary !=(select max(salary) from employees) and salary != (select min(salary) from employees);
25 • select employeeid
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

employeeid
125
127

Employeeid: 125 and 127 works for more than 20 hours in a week.

Q5: For each project, list the ID and year the project started. Order the results in ascending order by year.

```
6 • select startdate, stopdate from projects;
7 • select year(startdate) as yearofstart from projects;
8 • select * from projects;
9 • select distinct year(startdate) as yearofproject   from projects;
10 • select projectid,startdate
```

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

projectid	startdate
acc	1997-08-05
build	1999-08-05
abc	2000-05-30
abcd	2000-05-30
wcc	2000-05-30
xyz	2005-05-30
wwc	2020-05-08
NULL	NULL

Here we used the “asec” keyword to print in ascending order the value of year.

Q6: Find the average salary for all employees.

```
10 • select projectid,startdate
11    from projects
12    order by startdate asc;
13 • select * from employees;
14 • select avg(salary) as Averagesalary from employees;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Averagesalary
8921.285714

Here we used “avg” keyword to calculate average salary of employees.

Q7: Find the minimum salary for an employee

DBMS
Lab Assignment-IV

```
11      from projects
12      order by startdate asc;
13 •    select * from employees;
14 •    select avg(salary) as Averagesalary from employees;
15 •    select employeeid , min(salary) as minimumsalary from employees;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

employeeid	minimumsalary
125	2589.00

Keyword used here to find minimum salary is “min”.

Q8: Find the maximum salary for an employee.

```
12      order by startdate asc;
13 •    select * from employees;
14 •    select avg(salary) as Averagesalary from employees;
15 •    select employeeid , min(salary) as minimumsalary from employees;
16 •    select employeeid , max(salary) as maximumsalary from employees;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

employeeid	maximumsalary
125	24879.00

Keyword used to get maximum salary of employee is “max”.

Q9: Find list of employees whose name has exactly six characters.

```
9  •    select distinct year(startdate) as yearofproject   from projects;
10 •    select projectid,startdate
11      from projects
12      order by startdate asc;
13 •    select * from employees;
14 •    select avg(salary) as Averagesalary from employees;
15 •    select employeeid , min(salary) as minimumsalary from employees;
16 •    select employeeid , max(salary) as maximumsalary from employees;
17 •    select firstname from employees
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

firstname
mukesh

Q10: Find list of employees whose name starts with ‘a’.

DBMS
Lab Assignment-IV

```
from projects
order by startdate asc;
select * from employees;
select avg(salary) as Averagesalary from employees;
select employeeid , min(salary) as minimumsalary from employees;
```

Result Grid

firstname
aman

Q11: Find list of employees who works for more than one department/project.

```
select firstname from employees
where length(firstname) = '6';
select firstname from employees
where firstname regexp'^[a]';
select employeeid from employees;
```

employeeid
125
126
127
128
129
130
1589

Q12: Print all details of employees except the minimum and maximum paid employees.

```
insert into product_details values(22,32,4,'auto',12500),(56,23,5,'vegetables',250),(18,8,7,'fruits',100),(9,44,51,'faircream',178
select * from product_details;
alter table product_details
drop price;
select * from employees
```

employeeid	firstname	lastname	deptcode	salary
125	shyam	kumar	19	5500.00
126	aman	kumar	20	6650.00
127	suman	kumar	21	8952.00
128	mukesh	singh	23	5879.00
1589	Ram	kumar	18	8000.00

Here we used to select and where clause to get the result of given query.

Conclusion: In this experiment we learn how to work on several query of given database. Also, to retrieve the queries we use select where from a clause. Also, we learn use of various keywords of MySQL like length, date, min, max, count, asec, avg etc.