README

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CSE-5330-002

A1. Tool used for this project MySQL Workbench

A2. Create a database

```
CREATE DATABASE company;
```

Use the database

```
USE company;
```

Create the table Employee

```
CREATE TABLE Employee(
    Fname VARCHAR(50),
    Minit VARCHAR(5),
    Lname VARCHAR(50),
    Ssn INT(100),
    Bdate DATE,
    Address VARCHAR(200),
    Sex VARCHAR(5),
    Salary INT(200),
    Super_ssn INT(200),
    Dno INT(50),
    PRIMARY KEY(Ssn)
);

DESCRIBE Employee;
```

Create the table Department

```
CREATE TABLE department(
Dname VARCHAR(200),
Dnumber INT(200) PRIMARY KEY,
Mgr_ssn INT(200),
Mgr_start_date DATE,
```

```
UNIQUE (Dname),
FOREIGN KEY (Mgr_ssn) REFERENCES Employee(Ssn)
);

DESCRIBE department;
```

Create the table dept_locations

```
CREATE TABLE dept_locations (
Dnumber INT(200),
Dlocation VARCHAR(200),
PRIMARY KEY(Dnumber, Dlocation),
FOREIGN KEY(Dnumber) REFERENCES department(Dnumber) ON DELETE CASCADE
);

DESCRIBE dept_locations;
```

Create the table project

```
CREATE TABLE project(
Pname VARCHAR(200),
Pnumber INT(200) PRIMARY KEY,
Plocation VARCHAR(200),
Dnum INT(200),
UNIQUE (Pname),
FOREIGN KEY (Dnum) REFERENCES Department (Dnumber)
);
```

Create the table works on

```
CREATE TABLE works_on (
Essn INT(200),
Pno INT(200),
Hours DECIMAL(4,2),
PRIMARY KEY(Essn,Pno),
FOREIGN KEY(Essn) REFERENCES Employee(Ssn) ON DELETE CASCADE,
FOREIGN KEY(Pno) REFERENCES project(Pnumber) ON DELETE CASCADE
);
```

A3. Inserting data into employee table

```
INSERT INTO employee VALUES ('James', 'U', 'Miller', 906218888, '1978-05-27',
'13 Fifth St,Seattle,WA', 'M', 75000, 999999999, 5);
```

Inserting data into department table

```
INSERT INTO department VALUES ('QA', 11, 913323708, '2010-02-02');
```

Inserting data into dept_locations table

```
INSERT INTO dept_locations VALUES (11, 'Austin');
```

Inserting data into project table

```
INSERT INTO project VALUES ('DataMining', 13, 'Sacramento',6);
```

Inserting data into works_on table

```
INSERT INTO works_on VALUES ('122344668', 30, 25.0);
```

A4. Select statement for each query executed

```
-- Anser 4 : Method 1
SET @dno = (select Dnumber as DNO from Department where Dname = 'Sales');
Select Fname, Minit, Lname,Salary from Employee where Dno = @dno;

-- Anser 4 : Method 2
Select Fname, Minit, Lname,Salary from Employee where Dno = (select Dnumber as DNO
from Department where Dname = 'Sales');

-- Answer 4 : Method 3
Select Fname, Minit, Lname, Salary from Employee LEFT JOIN Department ON
Employee.Dno = Department.Dnumber where Department.Dname = 'Sales';
```

	Fname	Minit	Lname	Salary
▶	Jennifer	A	Joy	45000
	Erin	A	Maxfield	72000
	Megan	G	Jones	62000
	John	C	James	81000
	Bob	B	Bender	96000
	Kate	W	King	44000
	Lyle	G	Leslie	41000
	Billie	J	King	38000
	Jon	A	Kramer	41500
	Gerald	D	Small	29000
	Arnold	A	Head	33000
	Helga	C	Pataki	32000
	Naveen	B	Drew	34000
	Carl	E	Reedy	32000
	Sammy	G	Hall	37000
	Red	A	Bacher	33500
	Sheldon	C	Cucuou	35500
	Roy	C	Lewallen	75500

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```
-- Answer 5 : Method 1
Select Pname as ProjectName, Hours as HoursPerWeek from Project JOIN works_on ON
Project.Pnumber = works_on.Pno where Project.Dnum = (Select Dno from Employee where
Fname = 'Alex' and Lname = 'Yu');
```

ProjectName	HoursPerWeek
ConfigMgmt	20.00
ConfigMgmt	20.00
ConfigMgmt	25.00
DataMining	18.00
SearchEngine	4.00
SearchEngine	30.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	4.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	40.00
OperatingSystem	30.00
OperatingSystem	4.00
DatabaseSystems	40.00
DatabaseSystems	48.00
DatabaseSystems	40.00
DatabaseSystems	40.00

DatabaseSystems	40.00
DatabaseSystems	40.00
DatabaseSystems	40.00
DatabaseSystems	20.00
DatabaseSystems	25.00
DatabaseSystems	40.00
DatabaseSystems	10.00
DatabaseSystems	4.00
Middleware	20.00
Middleware	40.00
Middleware	46.00
Middleware	40.00
Middleware	25.00
Middleware	25.00
Middleware	40.00
Middleware	10.00
Middleware	4.00

```
-- Answer 6:
Select sum(Salary) as TotalSalary from Employee LEFT JOIN Department ON
Employee.Dno = Department.Dnumber where Department.Dname = 'Sales';
```

TotalSalary
862000

```
-- Answer 7:
Select Dname as DepartmentName, COUNT(*) as TotalEmployees from Department
INNER JOIN Employee ON Employee.Dno = Department.Dnumber
GROUP BY Department.Dnumber, Department.Dname ORDER BY TotalEmployees DESC;
```

DepartmentName	TotalEmployees
Sales	18
Software	16
Hardware	14
HR	7
Research	7
Administration	6
Headquarters	2
Networking	1

```
-- Answer 8:
Select b.Fname, b.Lname, Count(*) as EmployeesSupervised from Employee as a, Employee as
b where a.Super_ssn = b.Ssn GROUP BY b.Fname, b.Lname ORDER BY EmployeesSupervised DESC;
```

Fname	Lname	EmployeesSupervised
Alex	Freed	7
Jared	James	4
Roy	Lewallen	4
Bob	Bender	4
Franklin	Wong	3
Evan	Wallis	3
John	James	3
James	Borg	3
Kate	King	3
Nandita	Ball	2
Josh	Zell	2
Red	Bacher	2
Juan	Linda	2
Sammy	Hall	2
Lyle	Leslie	2
Jennifer	Wallace	2
Ahmad	Jabbar	1
John	Smith	1
Kim	Grace	1
Alec	Best	1
Bonnie	Bays	1

Fname	Lname	EmployeesSupervised
Bonnie	Bays	1
Jill	Jarvis	1
Billie	King	1
Gerald	Small	1
Naveen	Drew	1
Carl	Reedy	1
John	Ed	1
Sam	Snedden	1