**Company Database Schema**

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| 1. Display the **Department id**, **Department Name** and its **manager id** and the **Manager name.** |
| SELECT d.dnum, d.dname, d.mgrssn, e.fname, e.lname  FROM departments d, employee e  WHERE d.mgrssn = e.ssn; |
| 1. Display the **project name** and **departments’ name** that **control them** |
| SELECT p.pname, d.dname  FROM project p, departments d  WHERE p.dnum = d.dnum; |
| 1. Display the **dependent name** for all the dependence and the **name of the employee** they depend on him/her. |
| SELECT d.dependent\_name, (employee.fname + ' ' + employee.lname) as employee\_name  FROM dependent d, employee  WHERE d.essn = employee.ssn; |
| 1. Retrieve the employee **first name, project name** of all employees work in **department 10** who **works more than or equal 10 hours**   ordered by **first name**. |
| SELECT e.fname, p.pname  FROM employee e, project p, works\_for w  WHERE w.essn = e.ssn AND p.pnumber = w.pno AND e.dno = 10 AND w.hours >= 10  ORDER BY e.fname; |
| 1. List the **last name** of all **managers** who have **no dependents.** |
| SELECT e.lname  FROM employee e  WHERE e.ssn IN (SELECT mgrssn FROM departments)  AND e.ssn NOT IN (  SELECT d.essn FROM dependent d  ); |
| 1. Display the **department name** which has the **smallest employee ID over all employees' ID.** |
| SELECT d.dname  FROM departments d, employee e  WHERE e.dno = d.dnum AND e.ssn = (SELECT MIN(ssn) FROM employee  ); |
| 1. For each department >>> display **department name and number of its employees**   -- if its **average salary is less than 1200** |
| SELECT d.dname as dept\_name, COUNT(\*) as employees\_numbers  FROM departments d, employee e  WHERE d.dnum = e.dno  GROUP BY d.dname  HAVING AVG(e.salary) < 1200; |
| 1. Find the **fname** of the employees who **directly supervised** with ‘**Kamel Mohamed’**. |
| SELECT e.fname  FROM employee e  WHERE e.superssn = (  SELECT em.ssn  FROM employee em  WHERE em.fname = 'Kamel' AND em.lname = 'Mohamed'); |
| 1. Retrieve a list of employees (**fname**) and the projects (**project name**) they are working on ordered by **department no, last name, first name**. |
| SELECT e.fname, p.pname  FROM employee e, project p, works\_for w  WHERE w.pno = p.pnumber AND w.essn = e.ssn  ORDER BY e.dno, e.lname, e.fname; |
| 1. Find the **project number**, the **controlling department name**, the **department manager last name**, address and **birthdate**. For each project located in ‘**Cairo’** City |
| SELECT p.pnumber, d.dname, e.lname, e.address, e.bdate  FROM project p, departments d, employee e  WHERE d.dnum = p.dnum AND e.ssn = d.mgrssn AND p.city = 'Cairo'; |
| 1. For each department, retrieve the **department name** and the **maximum**, **minimum** and **average** **salary** of its employees. |
| SELECT d.dname, MAX(e.salary), MIN(e.salary), AVG(e.salary)  FROM departments d, employee e  WHERE e.dno = d.dnum  GROUP BY d.dname; |