**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 , CONCAT(e.Fname,' ',e.Lname) AS 'Full Name'   **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, CONCAT(e.Fname,' ',e.Lname) AS 'Full Name'   **FROM** dependent d, employee e  **WHERE** d.ESSN = e.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** e.Dno = 10  **AND** e.SSN = w.ESSn  **AND** w.Pno = p.Pnumber  **AND** w.Hours >= 10  **ORDER** **BY** e.Fname; |
| 1. List the **last name** of all **managers** who have **no dependents.** |
| * **SELECT** mgr.Lname   **FROM** employee mgr, departments dep  **WHERE** dep.MGRSSN = mgr.SSN  **AND** mgr.SSN NOT IN (SELECT ESSN FROM dependent); |
| 1. Display the **department name** which has the **smallest employee ID over all employees' ID.** |
| * **SELECT** d.Dname   **FROM** departments d, employee e  **WHERE** d.Dnum = e.Dno  **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, **COUNT**(e.SSN) AS Ecount   **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 ‘Mariam Mahmoud`. |
| * **SELECT** e.Fname   **FROM** employee e  **WHERE** e.Superssn = (  **SELECT** SSN  **FROM** employee  **WHERE** Fname = 'Mariam'  **AND** Lname = 'Mahmoud'  ); |
| 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** p.Pnumber = w.Pno  **AND** e.SSN = w.ESSn  **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, mgr.Lname, mgr.Address, mgr.Bdate   **FROM** project p, departments d, employee mgr  **WHERE** p.Dnum = d.Dnum  **AND** d.MGRSSN = mgr.SSN  **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, **MIN**(e.Salary) AS Min\_Salary, **MAX**(e.Salary) AS Max\_Salary, **AVG**(e.Salary) AS Avg\_Salary   **FROM** departments d, employee e  **WHERE** d.Dnum = e.Dno  **GROUP** BY d.Dname |