**Queries**

a.- Retrieve the names of all employees in department 5 who work more than 10 hours per week on the ‘ProductX’ project.

SELECT employee.fname, employee.lname

FROM employee, works\_on, project

WHERE ssn=essn AND pno=pnumber AND hours>10 AND pname='ProductX' AND dno='5'

|  |  |
| --- | --- |
| FNAME | LNAME |
| John | Smith |
| Joyce | English |

b.- List the names of all employees who have a dependent with the same first name as themselves.

SELECT employee.fname, employee.lname

FROM employee, dependent

WHERE employee.fname=dependent.dependent\_name

|  |  |
| --- | --- |
| FNAME | LNAME |
| John | Smith |

c.- Find the names of all employees who are directly supervised by ‘Franklin Wong’.

SELECT e1.fname AS employee, manager.fname AS manager

FROM employee e1, employee manager

WHERE e1.superssn=manager.ssn

AND manager.fname='Franklin'

|  |  |
| --- | --- |
| EMPLOYEE | MANAGER |
| Jonh | Franklyn |
| Ramesh | Franklyn |
| Joyce | Franklyn |

d.- For each project, list the project name and the total hours per week (by all employees) spent on the project.

SELECT project.pname, SUM(HOURS)

FROM project, works\_on

WHERE project.pnumber=works\_on.pno

GROUP BY project.pname

|  |  |
| --- | --- |
| PNAME | SUM(HOURS) |
| Computerization | 55 |
| ProductZ | 50 |
| ProductY | 37.5 |
| ProductX | 54.5 |
| Reorganization | 25 |
| Newbenefits | 57 |

e.- Retrieve the names of all employees who work on every project.

SELECT employee.fname, COUNT (\*)

FROM employee, works\_on

WHERE essn=ssn

GROUP BY employee.fname

HAVING COUNT(\*)>5

|  |  |
| --- | --- |
| FNAME | COUNT(\*) |
| Franklyn | 6 |

f.- Retrieve the names of all employees who do not work on any project.

SELECT employee.fname, COUNT (\*)

FROM employee, works\_on

WHERE essn=ssn

GROUP BY employee.fname

HAVING COUNT(\*)=0

g.- For each department, retrieve the department name and the average salary of all employees working in that department.

SELECT department.dname, AVG(SALARY)

FROM employee, department

WHERE dno=dnumber

GROUP BY department.dname

|  |  |
| --- | --- |
| DNAME | AVG(SALARY) |
| Research | 33250 |
| Administration | 28250 |
| Headquarters | 55000 |

h.- Retrieve the average salary of all female employees.

SELECT AVG (SALARY)

FROM employee

WHERE sex='F'

|  |
| --- |
| AVG(SALARY) |
| 31000 |

i.- Find the names and addresses of all employees who work on at least one project located in Houston but whose department has no location in Houston.

SELECT Distinct employee.fname, employee.address

FROM employee, works\_on, project, dept\_locations

WHERE pno=pnumber AND plocation='Houston' AND essn=ssn

AND dept\_locations!='Houston' AND dnumber=dno

j.- List the last names of all department managers who have no dependents.

SELECT DISTINCT manager.fname AS manager1

FROM employee e1, employee manager

WHERE manager.ssn=e1.superssn

AND NOT EXISTS (SELECT \*

FROM dependent

WHERE essn=manager.ssn)

|  |
| --- |
| FNAME |
| James |

4) a.- For each department whose average employee salary is more than $30,000, retrieve the department name and the number of employees working for that department.

SELECT dname, employeeCOUNT(\*)

FROM department, employee

WHERE (SELECT department.dname, AVG(SALARY)

FROM department, employee

WHERE dno=dnumber AND

AVG(SALARY)>30000)

b.- Suppose that we want the number of male employees in each department rather than all employees (as in Exercise 8.14 (a)). Can we specify this query in SQL? Why or why not.

SELECT department.dname, count(\*)

FROM employee, department

WHERE dno=dnumber AND sex='M'

GROUP BY department.dname

|  |  |
| --- | --- |
| DNAME | COUNT(\*) |
| Reasearch | 3 |
| Administration | 2 |
| Headquarters | 1 |