

--a) Retrieve the names of all employees in Department 5 who work more than 10 hours per week on the 'Product X' project.

```
SELECT FNAME, MINIT, LNAME
FROM JINRANY2_A4_EMPLOYEE JOIN JINRANY2_A4_WORKS_ON
    ON SSN = ESSN
    JOIN JINRANY2_A4_PROJECT
    ON JINRANY2_A4_WORKS_ON.PNO = JINRANY2_A4_PROJECT.PNUMBER
WHERE JINRANY2_A4_PROJECT.PNAME = 'ProductX' AND
    JINRANY2_A4_WORKS_ON.HOURS > 10
    and DNO =5 ;
```

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

```
INSERT INTO JINRANY2_A4_DEPENDENT(ESSN, DEPENDENT_NAME, SEX, BDATE,
RELATIONSHIP)
VALUES('888665555','James','F', TO_DATE('12-APR-80'),'son');
```

```
SELECT FNAME,MINIT,LNAME
FROM JINRANY2_A4_EMPLOYEE JOIN JINRANY2_A4_DEPENDENT
    ON JINRANY2_A4_EMPLOYEE.SSN = JINRANY2_A4_DEPENDENT.ESSN
WHERE JINRANY2_A4_EMPLOYEE.FNAME =
JINRANY2_A4_DEPENDENT.DEPENDENT_NAME;
```

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

```
SELECT FNAME,MINIT,LNAME
FROM JINRANY2_A4_EMPLOYEE
WHERE SUPERSSN = (SELECT SSN FROM JINRANY2_A4_EMPLOYEE WHERE FNAME =
'Franklin' AND LNAME = 'Wong');
```

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

```
SELECT PNAME, SUM(HOURS)
FROM JINRANY2_A4_PROJECT,JINRANY2_A4_WORKS_ON
WHERE JINRANY2_A4_PROJECT.PNUMBER = JINRANY2_A4_WORKS_ON.PNO
GROUP BY PNAME;
```

—E) For each department, retrieve the department name and the average salary of all employees working in that department.

```
SELECT DNAME, AVG(JINRANY2_A4_EMPLOYEE.SALARY)
FROM JINRANY2_A4_DEPARTMENT, JINRANY2_A4_EMPLOYEE
WHERE JINRANY2_A4_DEPARTMENT.DNUMBER = JINRANY2_A4_EMPLOYEE.DNO
GROUP BY DNAME;
```

--F) Retrieve the name of employees who work on EVERY project.

```
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
```

```
VALUES('333445555','1','3');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','30','7');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','61','25');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','62','18');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','63','13');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','91','13');
INSERT INTO JINRANY2_A4_WORKS_ON(ESSN, PNO,HOURS)
VALUES('333445555','92','5');
```

```
SELECT
JINRANY2_A4_EMPLOYEE.FNAME,JINRANY2_A4_EMPLOYEE.MINIT,JINRANY2_A4_EMPLO
YEE.LNAME
FROM JINRANY2_A4_EMPLOYEE
WHERE NOT EXISTS
(SELECT JINRANY2_A4_PROJECT.PNUMBER
FROM JINRANY2_A4_PROJECT
where NOT EXISTS
(SELECT *
FROM JINRANY2_A4_WORKS_ON
WHERE JINRANY2_A4_EMPLOYEE.SSN = JINRANY2_A4_WORKS_ON.ESSN
AND JINRANY2_A4_WORKS_ON.PNO = JINRANY2_A4_PROJECT.PNUMBER));
```

--G) Retrieve the average salary of all female employees

```
SELECT AVG(SALARY)
FROM JINRANY2_A4_EMPLOYEE
WHERE JINRANY2_A4_EMPLOYEE.SEX = 'F';
```

--H) 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 FNAME,MINIT,LNAME,ADDRESS
FROM JINRANY2_A4_EMPLOYEE
WHERE EXISTS (
SELECT *
FROM JINRANY2_A4_WORKS_ON,JINRANY2_A4_PROJECT
WHERE JINRANY2_A4_WORKS_ON.ESSN = JINRANY2_A4_EMPLOYEE.SSN
AND JINRANY2_A4_WORKS_ON.PNO = JINRANY2_A4_PROJECT.PNUMBER
AND JINRANY2_A4_PROJECT.PLOCATION = 'Houston')
AND NOT EXISTS(
SELECT *
FROM JINRANY2_A4_LOCATIONS
WHERE JINRANY2_A4_EMPLOYEE.DNO = JINRANY2_A4_LOCATIONS.DNUMBER
AND JINRANY2_A4_LOCATIONS.DLOCATION = 'Houston');
```

--i) *List the last names of all department managers who have no dependents.*

```
SELECT JINRANY2_A4_EMPLOYEE.FNAME
FROM JINRANY2_A4_EMPLOYEE
WHERE EXISTS (SELECT *
              FROM JINRANY2_A4_DEPARTMENT
              WHERE JINRANY2_A4_EMPLOYEE.SSN = JINRANY2_A4_DEPARTMENT.MGRSSN)
AND NOT EXISTS(SELECT *
              FROM JINRANY2_A4_DEPENDENT
              WHERE JINRANY2_A4_EMPLOYEE.SSN = JINRANY2_A4_DEPENDENT.ESSN);
```

```
grant select on JINRANY2_A4_DEPARTMENT to GSLISDM;
grant select on JINRANY2_A4_DEPENDENT to GSLISDM;
grant select on JINRANY2_A4_DEPT_LOCATIONS to GSLISDM;
grant select on JINRANY2_A4_EMPLOYEE to GSLISDM;
grant select on JINRANY2_A4_PROJECT to GSLISDM;
grant select on JINRANY2_A4_WORKS_ON to GSLISDM;
grant select on JINRANY2_A4_DEPARTMENT to jguo24;
grant select on JINRANY2_A4_DEPENDENT to jguo24;
grant select on JINRANY2_A4_DEPT_LOCATIONS to jguo24;
grant select on JINRANY2_A4_EMPLOYEE to jguo24;
grant select on JINRANY2_A4_PROJECT to jguo24;
grant select on JINRANY2_A4_WORKS_ON to jguo24;
```