

## Lab report HW3

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## Table creation

```
CREATE TABLE DEPT
```

```
(  
  DEPT_NO INT PRIMARY KEY,  
  NAME VARCHAR(50)  
);
```

```
CREATE TABLE EMP
```

```
(  
  EMP_ID INT PRIMARY KEY IDENTITY,  
  NAME VARCHAR(50),  
  SALARY INT,  
  DEPT_NO INT FOREIGN KEY REFERENCES DEPT (DEPT_NO)  
  ON DELETE CASCADE  
);
```

```
CREATE TABLE PRJ
```

```
(  
  PRJ_ID INT PRIMARY KEY IDENTITY,  
  NAME VARCHAR(50)  
);
```

```
CREATE TABLE PRJ_EMP
```

```
(  
  PRJ_ID INT NOT NULL,  
  EMP_ID INT NOT NULL,  
  'RULE' INT NOT NULL,  
  PRIMARY KEY (PRJ_ID, EMP_ID),  
  FOREIGN KEY (PRJ_ID) REFERENCES PRJ (PRJ_ID)  
  ON DELETE CASCADE,  
  FOREIGN KEY (EMP_ID) REFERENCES EMP (EMP_ID)  
  ON DELETE CASCADE  
);
```

## A)

```
INSERT INTO PRJ (NAME) VALUES('A');  
INSERT INTO PRJ (NAME) VALUES('B');  
INSERT INTO PRJ (NAME) VALUES('C');  
INSERT INTO PRJ (NAME) VALUES('D');
```

```
INSERT INTO PRJ_EMP VALUES (1, 17, 1);  
INSERT INTO PRJ_EMP VALUES (1, 2, 2);  
INSERT INTO PRJ_EMP VALUES (1, 15, 2);  
INSERT INTO PRJ_EMP VALUES (2, 1, 2);
```

```

INSERT INTO PRJ_EMP VALUES (2, 2, 1);
INSERT INTO PRJ_EMP VALUES (2, 3, 3);
INSERT INTO PRJ_EMP VALUES (2, 4, 3);
INSERT INTO PRJ_EMP VALUES (2, 5, 2);
INSERT INTO PRJ_EMP VALUES (3, 1, 1);
INSERT INTO PRJ_EMP VALUES (3, 6, 2);
INSERT INTO PRJ_EMP VALUES (4, 6, 2);
INSERT INTO PRJ_EMP VALUES (4, 17, 1);
INSERT INTO PRJ_EMP VALUES (4, 8, 3);
INSERT INTO PRJ_EMP VALUES (4, 9, 4);
INSERT INTO PRJ_EMP VALUES (4, 11, 3);
INSERT INTO PRJ_EMP VALUES (4, 7, 2);

```

## B)

1)

```

SELECT PRJ.NAME
FROM PRJ JOIN (SELECT PRJ_EMP.PRJ_ID, COUNT(PRJ_EMP.EMP_ID) AS C1
FROM PRJ_EMP
GROUP BY PRJ_EMP.PRJ_ID) AS G1 ON PRJ.PRJ_ID=G1.PRJ_ID
WHERE G1.C1 > 4

```

2)

```

SELECT EMP.NAME AS EMPLOYEE, DEPT.NAME AS DEPARTMENT, PRJ.NAME AS PROJECT,
PRJ_EMP.RULE AS ROLE
FROM EMP , PRJ, PRJ_EMP, DEPT
WHERE EMP.EMP_ID=PRJ_EMP.EMP_ID AND PRJ.PRJ_ID=PRJ_EMP.PRJ_ID AND
DEPT.DEPTNO=EMP.DEPTNO

```

3)

```

SELECT SUM(EMP.SALARY) AS TOTALSALARY
FROM EMP , (SELECT DISTINCT PRJ_EMP.EMP_ID AS E
FROM PRJ, PRJ_EMP
WHERE PRJ.PRJ_ID=PRJ_EMP.PRJ_ID AND PRJ.NAME='B') AS T
WHERE T.E=EMP.EMP_ID

```

4)

```

SELECT T.NAME, AVG(T.SALARY)
FROM (SELECT PRJ.PRJ_ID AS ID, PRJ.NAME AS NAME, EMP.SALARY AS SALARY
FROM PRJ, EMP, PRJ_EMP
WHERE PRJ.PRJ_ID=PRJ_EMP.PRJ_ID AND EMP.EMP_ID=PRJ_EMP.EMP_ID
)AS T
GROUP BY T.ID

```