LAB 3- Roua Alimam(AIU22102291)

1. **Create View and name it as SYSAN, find the System analyst details from EMP table,**

EMP

ENO	ENAME	TITLE
E1	J. Doe	Elect. Eng
E2	M. Smith	Syst. Anal.
E3	A. Lee	Mech. Eng.
E4	J. Miller	Programmer
E5	B. Casey	Syst. Anal.
E6	L. Chu	Elect. Eng.
E7	R. Davis	Mech. Eng.
E8	J. Jones	Syst. Anal.

SYSAN

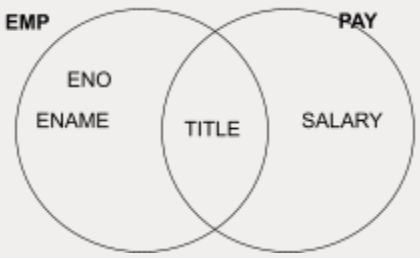
ENO	ENAME
E2	M. Smith
E5	B. Casey
E8	J. Jones

```
CREATE VIEW SYSAN AS
SELECT ENO, ENAME FROM EMP WHERE TITLE LIKE '%Syst.%';

SELECT * FROM SYSAN;
```

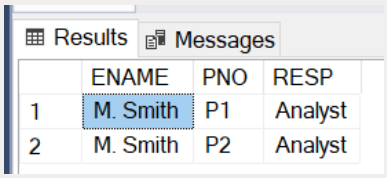
2. Consider relations EMP and PAY EMP and PAY are horizontally fragmented as follows:
   $EMP_1 = \sigma_{TITLE="Elect.Eng."}(EMP)$
   $EMP_2 = \sigma_{TITLE="Syst.Anal."}(EMP)$
   $EMP_3 = \sigma_{TITLE="Mech.Eng."}(EMP)$
   $EMP_4 = \sigma_{TITLE="Programmer"}(EMP)$
   $PAY_1 = \sigma_{SAL\_30000}(PAY)$
   $PAY_2 = \sigma_{SAL<30000}(PAY)$
   Draw the join graph of EMP $\bowtie_{TITLE}$ PAY. Is the graph simple or partitioned? If it is partitioned, modify the fragmentation of either EMP or PAY so that the join graph of $EMP \bowtie_{TITLE}$ PAY is simple.

```
 SELECT EMP.TITLE, PAY.SAL FROM EMP INNER
JOIN PAY ON EMP.TITLE = PAY.TITLE;
```



3. Find the names of all the system analysts with their project number and responsibilities involving the view SYSAN and relation ASG.

```
SELECT SYSAN.ENAME, ASG.PNO, ASG.RESP
FROM SYSAN
INNER JOIN ASG ON ASG.ENO = SYSAN.ENO
WHERE RESP LIKE '%Analyst%';
```



Results | Messages

	ENAME	PNO	RESP
1	M. Smith	P1	Analyst
2	M. Smith	P2	Analyst

4. Create a view as ESAME and restricts the access by any user to those employees from EMP having the same title.

```
CREATE VIEW ESAME AS
SELECT ENO, ENAME, TITLE FROM EMP
WHERE TITLE LIKE '%Syst. Anal%';

SELECT * FROM ESAME
```

5. Mapping Creation: Given

Given
- Source LCS
- A target GCS
- A set of value correspondences discovered during schema matching phase

Produce a **set of queries** that, when executed, will create GCS data instances from the source data

Target GCS

EMP(E#, ENAME, TITLE, CITY)
PAY(TITLE, SAL)
PR(P#, PNAME, BUDGET, LOC)
CL(CNAME, ADDR, CT#, P#)
WORKS(E#, P#, RESP, DUR)

```
CREATE VIEW GSC AS
SELECT EMP.ENO, EMP.ENAME, EMP.TITLE, PAY.SAL,
PROJ.PNO, PROJ.PNAME, PROJ.BUDGET, PROJ.LOC,
CLIENT.CNAME, CLIENT.ADDRESS, ASG.RESP, ASG.DUR
FROM EMP
INNER JOIN PAY ON EMP.TITLE = PAY.TITLE
INNER JOIN ASG ON EMP.ENO = ASG.ENO
INNER JOIN PROJ ON ASG.PNO = PROJ.PNO
INNER JOIN CLIENT ON PROJ.PNO = CLIENT.PNO;
```

	ENO	ENAME	TITLE	SAL	PNO	PNAME	BUDGET	LOC	CNAME	ADDRESS	RESP	DUR
1	E1	J. Doe	Elect. Eng.	40000	P1	Instrumentation	150000	Montreal	ABC Corp	123 Main St, New York	Manager	12
2	E2	M. Smith	Syst. Anal.	34000	P1	Instrumentation	150000	Montreal	ABC Corp	123 Main St, New York	Analyst	24
3	E2	M. Smith	Syst. Anal.	34000	P2	Database Develop.	135000	New York	XYZ Ltd	456 Market St, San Francisco	Analyst	6
4	E4	J. Miller	Programmer	24000	P2	Database Develop.	135000	New York	XYZ Ltd	456 Market St, San Francisco	Programmer	18
5	E5	B. Casey	Syst. Anal.	34000	P2	Database Develop.	135000	New York	XYZ Ltd	456 Market St, San Francisco	Manager	24