



Lecture Takeaways 6

1. Decompose into BCNF

2. Draw an RA tree for this query

```
SELECT MAX(UserID)
FROM Payroll
UNION
SELECT MAX(UserID)
FROM Regist
```



3. Draw an RA tree for this query

```
SELECT P.UserID,  
        COUNT(*)  
  FROM Payroll AS P,  
        Regist AS R  
 WHERE P.UserId = R.UserID  
GROUP BY P.UserID
```

4. An inner join is:

- Commutative only
- Associative only
- Both Commutative and Associative
- Neither Commutative nor Associative

5. Find a semantically-equivalent tree

6. Describe a uniformly-distributed dataset, or describe how one of our datasets does **NOT** have a uniform distribution

7. What is a general-purpose expression for the cardinality of a join between two tables on a primary key?

8. What is the estimated cardinality of this query?

