Mock Quiz

1. What is the main purpose of normalization in database design?
    a. To prevent issues caused by anomalies, redundancies, and inconsistencies.

2. How can you test if a decomposition is lossless?
    a. We can simply natural join and see if we end with the same number of rows we started with the initial table. Or we can see if the common attribute between a pair of relations is a candidate key in one of them.

3. How do Functional Dependencies help us find candidate keys?
    a. Functional Dependencies help identify which attributes can uniquely determine all others in a table.
    If a one-to-one or many-to-one relationship exists from an attribute (or set of attributes) to all others, it can serve as a candidate key because it uniquely identifies each record in the relation.

4. How do we use Functional Dependencies to decide whether a table needs normalization?
    a. They help us decide if some attributes depend only on a part of a key or on other non-key attributes. We can check how to split the table using them.

5. Why should every decomposition ensure at least one common key between relations?
    a. To ensure lossless decomposition when breaking the main table into 2 or more smaller relations. When we natural join them back, no spurious tuples are added/ no info is lost, hence it is a lossless decomposition.

- **NOTE: I HAVE NOT ADDED PRACTICAL QUESTIONS AS IVE WENT OVER THEM DEEPLY IN THE TUTORIAL AND ALSO MENTIONED WHAT CAN COME IN THE QUIZ.**