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- 1. The maximum number of superkeys will be 8.
- 2. No, it is not in BCNF because the functional dependency semester->year, semester is not the super key of the table.
- 3. Assuming the address to be atomic in nature, the highest form will be in 2NF. It will not be in 3NF as transitive dependency between dob and age exists. It is in 2NF because there exists no partial dependency as no proper subset of the candidate key has a functional dependency with a non-prime attribute.
- 4. Yes. It is in BCNF because all attributes are prime and hence automatically in 3NF. The key is composite with no other attributes in the relation.
- 5. False. The relation is not in 3NF because in the functional dependency semester->year, semester is not a super key nor year is a prime attribute. For a relation to be in 3NF, every non-trivial functional dependency, at least one of the conditions must be true.
 - The determinant must be a super key
 - The dependent must be a prime attribute.