**INTERVIEW QUESTIONS ON NORMALIZATION**

1. **What is Normalization?**

* Normalization is a concept or process of identifying and eliminating the data redundancies and data anomalies from the data base. Using normalization we can able to remove different types of anomalies such as Insertion anomalies, deletion anomalies, Update anomalies.

1. **Why Normalization is needed?**

* Without normalization there may be huge amount of data redundancy in the database that may lead to an inconsistent database state.
* Because if data redundancy the database become slow day by day.
* It increases readability
* To remove anomalies at a limited extent we should use normalization.
* To design a good database schema we must use normalization.

1. **What is data redundancy?**

* When in a relation **R** multiple number of identical data present unnecessarily

Then it is known as data redundancy.

1. **What do you mean by data Anomalies?**

* When any operation performed on the database tends to unexpected or unpredictable results then it is known as anomalies.
* There are three different types of anomalies --> **1. Insertion anomalies**

**2. Deletion anomalies, 3. Update anomalies.**

1. **Explain the process of Normalization?**

* In normalization we decompose the relation into smaller forms until it reaches to its simple form which is redundant free and anomaly free.
* At every stage we decompose the relation for higher stage normalization and this each stage is known as Normal forms.
* All the higher stages are much more normalized than the previous stages.

1. **What are the different types of normal forms?**

* There are major four types of normal form but there are beyond this range also which are not used in generally in industry.
  + - 1NF (First Normal Form)
    - 2NF (Second Normal Form)
    - 3NF (Third Normal Form)
    - BCNF (Boyce codd Normal Form)

1. **What do you mean by 1NF?**

1Nf means if any tuple contains multiple values within one single block then only we can say the relation is not in the 1NF because doesn’t allow multiple values within the same relation of a tuple or row.

1. **What do you mean by 2Nf?**

* When the relation is already present in 1NF and some attribute of relation R partially depends on a proper subset of primary key or we can say candidate key.
* To make any relation in 2NF we must remove partial dependency.

1. **What do you mean by 3NF?**

* The relations are said to be in 3NF if and only if the relation is already in 2NF
* There is no partial dependency.
* There must be no transitive dependency ( If any attribute A of a relation R transitively depends on B if and only if A depends on any non-prime attribute C and in turn C is depend on A.)

1. **What are the problems in 1nf, 2nf and 3nf?**