meets, and hence the degree to which it has been normalized. Normalization rules are divided into the following normal form.

- First Normal Form
- Second Normal Form
- Third Normal Form

First Normal Form

The first normal form states that the domain of an attribute must include only atomic (simple, individual) values and that the value of any attribute in a tuple must be a single value from the domain of the attribute. Consider the relations of the Inventory Management System where all the relations are in INF as they have neither any multivalued attributes nor composite attributes.

Hence the relations are said to be in INF.

Second Normal Form

The second normal form is based on the concept of full functional dependency. A functional dependency X → Y is a full functional dependency if the removal of any attribute A from X means that the dependency does not hold anymore. A relation schema R is in 2NF if every nonprime attribute A in R is fully functionally dependent on the primary key of R.

Third Normal Form

The third normal form is based on the concept of transitive dependency. A relation schema R is in 3NF if it satisfies 2NF and no nonprime attribute of R is transitively dependent on the primary key. A relation schema R is in 3NF if every nonprime attribute of R meets both of the following conditions:

• It is fully functionally dependent on every key of R.

• It is non-transitively dependent on every key of R. The relations used in this database are fully functionally dependent on its key attribute and do not hold any transitive dependencies. Hence all the relations are in 3NF.