

Integrity Constraints - When many users enter data items in a database it becomes very important that the values of data items and association among various data items are not disturbed. Therefore data insertion, updation and deletion have to be carried out in such a way that the database integrity is always maintained.

Database integrity is the preservation of data correctly and implies the process of keeping database away from accidental deletion or alteration. Integrity checks can be performed at the data entry level itself, by checking that the data values conform to certain specified rules.

Types of Integrity Constraints -

RDBMS specifies following

integrity constraints

- 1) Entity Integrity constraints
- 2) Referential " "
- 3) Domain " "

1) Entity Integrity Constraints - This constraint specifies that each entity should be unique. Primary key values perform this unique identification function. No primary attribute value can be kept null. This is because if two or more entities have null values in their primary key value, then they can not be distinguished.

2) Referential Integrity Constraints - This integrity is used to establish a master-child relationship between two relations.

Referential integrity constraints ensures that

a value that appears in one relation for an attribute should also appear for a matching attribute in another relation, if the two relations are related to each other on this common attribute. This integrity constraint is concerned with concept of foreign key. The domain of a foreign key are those of the primary key of another relation.

For example, if a base relation includes a foreign key, it must be a primary key of some other relation and should not involve a value other than those that appear in the relation where it is considered as primary key.

3) Domain Integrity Constraint - It specifies that the value of an attribute say  $A$  in a relation, must be from the domain i.e. from  $\text{domain}(A)$ . A domain is a set of atomic values. For example, if in a relation Employee, the domain of attribute salary is set of all possible positive numbers between 15000 to 4000. The attribute salary can not hold any value other than the specified values in the domain.