**ACID PROPERTIES OF SQL**

The acid properties in SQL is an acronym for Atomicity, Consistency, Isolation and Durability

The acid properties ensure data integrity during transaction

**Atomicity:** The transact is all or nothing**.** This property means either all the insert, update and delete operations inside a transaction take place or none. that is, either all the insert update or delete statements are completed or they are rolled back

**Consistency:** All constraints and other data integrity rules have been adhered to and all related objects (data pages and index pages have been updated completely this ensures database consistency. This means whatever happens in the middle of the transaction, the acid property will never leave your database in a half-completed state.

* If the transaction completed successfully, then it will apply all the changes to the database
* If there is an error in the transaction, then all the changes that already made will be rolled back automatically.
* If there is a system failure in the middle of the transaction, then all the changes made already will be rolled back

**Isolation:** this means every transaction is individual and that one transaction cannot access the result of other transactions until the transaction is completed. You can’t perform the same operation using multiple transactions at the same time.

**Durability:** once thetransaction is completed, the changes it has made to the database will be permanently in place in the system. The data is safe in the sense that things such as a power outage or other non disk system failure does not lead to data that is only half written