

## 1 Measure of Performance

**Response time** : Average time to wait for a response to a particular query

**Throughput** : volume of work completed in a fixed amount of time (measured in transactions per second)

**Workload** : The amount and priority of queries processed by the database.  
(Lower the better)

## 2 Normalization

Can improve or decrease performance.

It can improve performance as less redundancy leads to more unique rows per record leading to a decrease in I/O operation.

More tables leads to smaller and more clustered indexes.

However, it can decrease performance as reducing redundancies can lead to a loss in functional dependencies which often leads to costly join operations.

There is a trade off between maintaining functional dependencies and reducing redundancies. The choice of optimization is dependent on the situation at hand.