On HashMaps and Implementations

Use case

Hashes and Hashing functions

A hash function f maps a given input: $f(i) \rightarrow h$, i to a hash h. $f(i)$ has to always compute to h for the same i, otherwise the map would store values with the same key at the differing location. To keep map access $O(1)$ and map insert $O(n)$, the hash function computes to an integer. This integer is then used to index into an the underlying array.

Performance and the load factor

Dealing with Collisions

Naiive Implementation