Double Hashing

Difficulty Level : Medium

Double hashing is a collision resolving technique in **Open Addressed** Hash tables. Double hashing uses the idea of applying a second hash function to key when a collision occurs.

> *Double hashing can be done using :*
> ***(hash1(key) + i * hash2(key)) % TABLE_SIZE***
> *Here hash1() and hash2() are hash functions and TABLE_SIZE is size of hash table.*
> *(We repeat by increasing i when collision occurs)*

First hash function is typically hash1(key) = key % TABLE_SIZE

A popular second hash function is : **hash2(key) = PRIME – (key % PRIME)** where PRIME is a prime smaller than the TABLE_SIZE.

A good second Hash function is:

- It must never evaluate to zero
- Must make sure that all cells can be probed

Lets say, Hash1 (key) = key % 13

Hash2 (key) = 7 – (key % 7)