Cuckoo hasing [1]

> **CUCKOO HASHING** is a dynamization of a static dictionary which uses two hash tables, T_1 and T_2, each consisting of r words, and two hash functions $h_1, h_2 : U \to \{0, \cdots, r - r\}$. Every key $x \in S$ is stored in cell $h_1(x)$ of T_1 or in cell $h_2(x)$ of T_2, but never in both.

function lookup(x)
    return $T_1[h_1(x)] = x \vee T_2[h_2(x)] = x$
end

function procedure(x)
    if lookup(x) then return
    loop MaxLoop times
        $x \leftrightarrow T_1[h_1(x)]$
        if $x = \perp$ then return
        $x \leftrightarrow T_2[h_2(x)]$
        if $x = \perp$ then return
    end loop
    rehash()
    insert(x)
end

Reference

1. Pagh R, Rodler F F. Cuckoo hashing[J]. Journal of Algorithms, 2004, 51(2): 122-144.↵