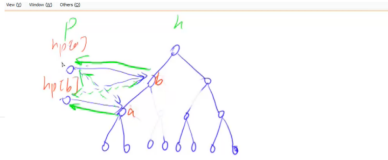


$$ph[hp[a]] = a$$

$$ph[hp[b]] = b$$



The  $hp$  and  $ph$  array are the map of heap.

$ph[k]$  keep the index of the  $k$ th inserted number

$hp[k]$  keep in the index  $k$  of heap.  $i$ th when it is inserted