

### 11.4-2.

Write pseudocode for HASH-DELETE as outlined in the text, and modify HASH-INSERT to handle the special value DELETE.

**Answer.**

```
HASH-DELETE( $T, k$ )
1   $i = 0$ 
2  repeat
3       $j = h(k, i)$ 
4      if  $T[j] == k$ 
5           $T[j] = \text{NIL}$ 
6          return  $j$ 
7      else  $i = i + 1$ 
8  until  $T[j] == \text{NIL}$  or  $i == m$ 
9  error "element not exist"
```

By implementing HASH-DELETE in this way, the HASH-INSERT need to be modified to treat NIL slots as empty ones.

```
HASH-INSERT( $T, k$ )
1   $i = 0$ 
2  repeat
3       $j = h(k, i)$ 
4      if  $T[j] == \text{NIL}$  or  $T[j] == \text{DELETE}$ 
5           $T[j] = k$ 
6          return  $j$ 
7      else  $i = i + 1$ 
8  until  $i == m$ 
9  error "hash table overflow"
```

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