```
HT  (k is number of candidates)                          LookupTable
Algorithm countElementOfSeq(seq, D)
1       p := seq.first()                                 1
1       D.insertItem(p.element(), 1)                     1
n       while ! seq.isLast(p) do                         n
n               p := seq.after(p)                        n
n               cnt := D.findValue(p.element())          nlog k = O(n)
n               if cnt == null then                      n
k                       D.insertItem(p.element(), 1)     k^2 = O(1)
                else
n                       D.insertItem(p.element(), cnt+1) n*log k = O(n)

Algorithm countElementOfSeq(seq, D)
        Iter := seq.elements()
        while iter.hasNext() do
                elem := iter.nextObject()
                cnt := D.findValue(elem)
                if cnt = null then
                        D.insertItem(elem, 1)
                Else
                        D.insertItem(elem, cnt+1)
Algorithm countElementOfSeq(seq, D)
        Iter := seq.elements()
        while iter.hasNext() do
                elem := iter.nextObject()
                cnt := D.findValue(elem)
                if cnt = null then
                        val := [1]
                        D.insertItem(elem, val)
                else cnt[0] = cnt[0]+1
```

```
Algorithm insertSeqIntoPQ(seq, PQ)
        iter := seq.elements()
        while iter.hasNext() do
                elem := iter.nextObject()
                PQ.insertItem(elem, elem)

Algorithm findWinnersFromPQ(PQ)
        max := 0
        curr := PQ.removeMin()
        cnt := 1
        while !PQ.isEmpty() do
                next := PQ.removeMin()
                if curr = next then
                        cnt = cnt + 1
                else
                        if cnt > max then
                                winner := []
                                winner.push((curr, cnt))
                                max := cnt
                          else if cnt = max then
                                winner.push((curr, cnt))
                        cnt := 1
                        curr := next

        if cnt > max then
                winner := []
                winner.push((curr, cnt))
        else if cnt = max then
                winner.push((curr, cnt))

        return winners
```