Algorithm 1: Majority Element Algorithm

Input: X: Set of N elements
Input: K: Number of elements to output
Data: T: Map structure with K entries
Result: Set of K majority elements

Initialization: $T \leftarrow \emptyset$

foreach $i \in X$ **do**
  if $i \in T$ **then**
    $T[i] \leftarrow T[i] + 1;$
  else if $|T| < K - 1$ **then**
    $T[i] = 1;$
  else
    forall $j \in T$ **do**
      $T[j] \leftarrow T[j] - 1;$
      if $T[j] == 0$ **then** $T \leftarrow T \setminus j;$
    end
  end
end