Algorithm 1 Ordena los elementos en T_0 con respecto a los elementos de B presentes en cada σ

procedure $Cardinal\_Sort(T_0, B)$
  for $i = 1$ to s **do**
    $(T_0, T_0') = separar(T_0, b_i)$
    for $j = 0$ to $i - 1$ **do**
      $(T_{j+1}', T_j'') = separar(T_j, b_i)$
      $T_j = mezclar(T_j', T_j'')$
    end for
    $T_i = T_i'$
  end for
  Return $[T_0, ..., T_s]$
end procedure

Algorithm 2 Llena region $R\sigma$ para cada complejo de memoria en T_0

procedure $Parallel\_Fill(T_0, f, p, r)$
  for $i = 1$ to p **do**
    $(T_{i,0}^+, T_i^-) = separar(T_{i-1}, i)$
    for $j = 1$ to $f(i)$ **do**
      $r_i = p + r + f(A_{i-1} + j)$
      $T_{i,j}^+ = encender(T_{i,j}^+, r_i)$
    end for
    $T_i = mezclar(T_{i,f(i)}^+, T_i^-))$
  end for
  Return T_0
end procedure

Algorithm 3 Retorna los complejos de memoria tal que la suma de sus $R\sigma$ sean igual a k

procedure $Subset\_Sum(p, w, k)$
    $q_w = \sum_{i=1}^{p} w(i)$
    $T_0 =$Libería$(p + q_w, p)$
    $T_1 = Parallel\_Fill(T_0, w, p, 0)$
    $T_k = Cardinal\_Sort(T_1, p + 1, p + q_w)[k]$
    $leer(T_k)$
end procedure

Algorithm 4

procedure $Bounded\_Knapsack(p, w, \rho, k, k')$
    $q_w = \sum_{i=1}^{p} w(i)$;
    $q_\rho = \sum_{i=1}^{p} \rho(i)$;
    $T_0 =$Libería$(p + q_w + q_\rho, p)$
    $T_0 = Parallel\_Fill(T_0, w, p, 0)$
    $T_0 = Cardinal\_Sort(T_0, p + 1, p + q_w)$
    $T_1 = \emptyset$
    for $i = 1$ to k **do**
        $T_1 = mezclar(T_1, Cardinal\_Sort(T_0, p + 1, p + q_w)[i])$
    end for
    $T_0 = Parallel\_Fill(T_1, \rho, p, q_w)$
    $Cardinal\_Sort(T_0, p + q_w + 1, p + q_w, q_\rho)$
    $T_1 = \emptyset$
    for $i = k'$ to q_ρ **do**
        $T_1 = merge(T_1, Cardinal\_Sort(T_0, p + q_w + 1, p + q_w + q_\rho)[i])$
    end for
    $leer(T_1)$
end procedure

Algorithm 5

1: **procedure** $Unbounded\_Knapsack(p, w, \rho, k, k')$
2: $q_w = \sum_{i=1}^{p} w(i)$;
3: $q_\rho = \sum_{i=1}^{p} \rho(i)$;
4: T_0 =Libería$(p + q_w + q_\rho, p)$
5: $T_0 = Parallel\_Fill(T_0, w, p, 0)$
6: $T_0 = Cardinal\_Sort(T_0, p + 1, p + q_w)$
7: $T_1 = \emptyset$
8: **for** $i = 1$ to k **do**
9: $T_1 = mezclar(T_1, Cardinal\_Sort(T_0, p + 1, p + q_w)[i])$
10: **end for**
11: $T_0 = Parallel\_Fill(T_1, \rho, p, q_w)$
12: $i = q_\rho; t = 0$
13: **while** $i \geq 1 \wedge t == 0$ **do**
14: $T' = Cardinal\_Sort(T_0, p + q_w + 1, p + q_w + q_\rho)[i]$
15: **if** $T' \neq \emptyset$ **then**
16: $leer(T')$
17: $t = 1$
18: **else**
19: $i = i - 1$
20: **end if**
21: **end while**
22: **end procedure**