Algorithm 1: Get set of subsets covering the region

Input: S the set of sensors

Output: C the set of subsets covering the region

1   Sort S in non-increasing order of sensor ranges

2   **while** S *is not empty* **do**

3      $cov_i = \text{isCoveredBy}\ (C_i)$

4   **if** $cov_i < k$ **then**

5         $node = $ the first sensor in S

6   Add $node$ to C_i

7   Remove $node$ from S

8   **else**

9   Add C_i to C

10        $i{+}{+}$

11   Output C