

Algorithm Design
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Solution of Exercise C-5.5

We can use a greedy algorithm, which seeks to cover all the designated points on L with the fewest number of length-2 intervals (for such an interval is the distance one guard can protect). This greedy algorithm starts with x_0 and covers all the points that are within distance 2 of x_0 . If x_i is the next uncovered point, then we repeat this same covering step starting from x_i . We then repeat this process until we have covered all the points in X .