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CS 590 Homework Assignment  
8: Application Exercises

Due Date: March 27, 2022

## **Problem 10.5.21:**

The Algorithm is included below:

### **Algorithm ArtGalleryGuarding( $X, d$ )**

$G \leftarrow \theta$

**Sort** $X$  in increasing order

$Pos \leftarrow 0$

**While** ( $Pos < \text{length}[X]$ )**do**

**// Place a guard as far right as possible to**

**// cover  $X[pos]$**

$x \leftarrow X[Pos] + d$

**add** $x$  to  $G$

**// Skip the other sculptures this guard covers**

**do**

$Pos \leftarrow Pos + 1$

**while**( $Pos < \text{length}[X]$  and  $X[Pos] \leq x$ )

**return**  $G$

