

Homework Assignment: 2

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1. XSort Algorithm

(a)

$$\begin{aligned} EXAMPLE &\Rightarrow AXEMPLE \Rightarrow AEXMPLE \Rightarrow AEEMPLX \\ &\Rightarrow AEELPMX \Rightarrow AEELMPX \end{aligned}$$

(b) Time Efficiency: $O(n^2)$

(c)

2. Bubble Sort

(a)

$$\begin{aligned} EXAMPLE &\Rightarrow EAMPLEX \Rightarrow AELEMPX \Rightarrow AEELMPX \\ &\Rightarrow AEELMPX \Rightarrow AEELMPX \end{aligned}$$

(b)

(c)

3. Show that $n^2 \in O(n^2 + 10n), n \geq 0$

4. Show that $n \notin \Omega(n^2)$