Homework Assignment: 2
Name: Jonathan Gaines
Date: 3/29/2017

_____

1. XSort Algorithm

    (a)
    $$EXAMPLE \Rightarrow AXEMPLE \Rightarrow AEXMPLE \Rightarrow AEEMPLX$$
    $$\Rightarrow AEELPMX \Rightarrow AEELMPX$$

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

    (c)

2. Bubble Sort

    (a)
    $$EXAMPLE \Rightarrow EAMPLEX \Rightarrow AELEMPX \Rightarrow AEELMPX$$
    $$\Rightarrow AEELMPX \Rightarrow AEELMPX$$

    (b)
    (c)

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

4. Show that $n \notin \Omega(n^2)$ Choose $k = 1$
   Assuming $n > 1$, then
   $\frac{f(n)}{g(n)} = \frac{n}{n^2} < \frac{n^2}{n^2} = 1$
   Choose $c = 1$. Note that $n < n^2$
   Thus $n \notin \Omega(n^2)$ because $n < n^2$ when $n > 1$