1. (50%) Using the word processor or editor of your choice, reproduce, as closely as you can, each of the following quoted blocks of text. Your version must communicate the same information as my original and must use symbols and math typesetting where appropriate, but of course, it doesnt have to be pixel-for-pixel identical (especially the pseudocode).

   (a) "The BLORT-SEARCH algorithm runs in time $\Theta(n^2)$, while the FOO-SEARCH algorithm runs in time $O(n \log n)$ but is faster in practice for only $n > 10000$. Do not use STUPID-SEARCH, which is $\Omega(n^5)$."

   (b) "It can be shown that for $\epsilon > 0$,

   $$test \lim_{n \to \infty} \frac{n \log(n)}{n^{1+\epsilon}} = 0$$

   Moreover,

   $$a^{log_b n} = n^{log_b a},$$

   which is useful for recurrence analysis."

   (c) "One way to code the BINARY-SEARCH algorithm is as follows:

```
BSEARCH(x, A, p, r)
  if p = r
    if A[p] = x
      return p
    else
      return notFound
  else
    mid ← ⌈(p + r)/2⌉
    if A[mid] > x
      return BSEARCH(x, A, p, mid − 1)
    else
      return BSEARCH(x, A, p, r)
```

   This is one of many correct versions of the algorithm."