1. Arrange the functions \((1.5)^n, n^{100}, (\log n)^3, \sqrt{n \log n}, 10^n, (n!)^2, n^{99} + n^{98}\) in a list so that each function is big-O of the next function.

(cf. Rosen 3.2 Exercise 22)
2. 

**procedure** Statements($n > 1$)

1. **for** $i := 1$ to 10
2. *Statement A.*
3. **for** $j := 1$ to $n$
4. *Statement B.*
5. **for** $k := 1$ to 4
6. **for** $\ell := 1$ to $n$
7. *Statement C.*

1. Which statement (A, B, or C) is executed the most number of times?

2. Suppose that Statement A requires $3n$ comparison operations, Statement B requires $n^2$ comparisons, and Statement C requires 30 comparisons. How many total comparisons does the entire pseudocode segment require? What is the order of this algorithm in $\Theta$ notation?