Snailsort:

```
i ← 1
while i < n do
    if a[i]>a[i+1] then
        a[i] ↔ a[i+1]
        i ← 1
    else
        i ← i+1
    end if
end while
```

The following problems refer to Snailsort. We want to count the number of comparisons. For each problem write out a summation and then simplify the summation. Make your analyses as exact as possible.

Problem 1.

(a) What is the best case?

(b) What is the worst case?

(c) **Challenge problem (will not be graded).** What is the average case?

Problem 2. Assume you start with a sorted list, pick two distinct elements at random, and interchange them. That is your input for Snailsort.

(a) What is the best case?

(b) What is the worst case?

(c) What is the average case?