1. Kleinberg & Tardos Chapter 8, question 4

2. Kleinberg & Tardos Chapter 13, question 15

3. Recall the algorithm insertion sort:

```plaintext
input : Array A of n integers
begin
  for i = 1, . . . , n do
      Swap A[j − 1] and A[j].
    end
  end
end
```

Suppose A contains n integers in a uniformly chosen random order. What is the average (expected) running time of insertion sort?