

1. Give a tight bound on the worst-case running time of the following algorithm. Include justifications for your upper bound and your lower bound.

```
# Precondition: L is a non-empty list of numbers.
for i := 1, 2, ..., len(L)-1:
    j := i
    while j > 0 and L[j] < L[j-1]:
        swap L[j] and L[j-1]
        j := j - 1
# Postcondition (even though this is not necessary for the question):
# L is sorted in non-decreasing order.
```