INSERTION-SORT 
$$(A, n)$$
 cost times

1 **for**  $i = 2$  **to**  $n$ 

2  $key = A[i]$   $c_2$   $n-1$ 

3 **//** Insert  $A[i]$  into the sorted subarray  $A[1:i-1]$ . 0  $n-1$ 

4  $j = i-1$   $c_4$   $n-1$ 

5 **while**  $j > 0$  and  $A[j] > key$   $c_5$   $\sum_{i=2}^{n} t_i$ 

6  $A[j+1] = A[j]$   $c_6$   $\sum_{i=2}^{n} (t_i-1)$ 

7  $j = j-1$   $c_7$   $\sum_{i=2}^{n} (t_i-1)$ 

8  $A[j+1] = key$   $c_8$   $n-1$