
Algorithm 1 Insertion Sort

```
1: procedure INSERT-SORT( $A$ )  $\triangleright$  Worst – Case :  $\theta(n^2)$ 
2:   for  $j \leftarrow 2$  to  $A.length$  do
3:      $key \leftarrow A[j]$ 
4:      $i \leftarrow j - 1$ 
5:     while  $i \geq 0 \wedge A[i] > key$  do
6:        $A[i+1] = A[i]$ 
7:        $i \leftarrow i - 1$ 
8:     end while
9:      $A[i+1] = key$ 
10:  end for
11:  return  $A$ 
12: end procedure
```

Algorithm 2 Selection Sort

```
1: procedure SELECT-SORT( $A$ )  $\triangleright$  Worst – Case :  $\theta(n^2)$ 
2:   for  $i \leftarrow 1$  to  $A.length - 1$  do
3:      $min \leftarrow i$ 
4:     for  $j \leftarrow i + 1$  to  $A.length$  do
5:       if  $A[j] < A[min]$  then
6:          $min \leftarrow j$ 
7:       end if
8:     end for
9:      $key \leftarrow A[i]$ 
10:     $A[i] \leftarrow A[min]$ 
11:     $A[min] \leftarrow key$ 
12:  end for
13:  return  $A$ 
14: end procedure
```
