

Insertion Sort

We went over the Insertion Sort algorithm in class; this handout is so you can see the function typeset in the CLRS pseudocode style. In this version, the function takes in an array A , and its length n and sorts it according to the Insertion Sort algorithm; it does not return anything.

```

INSERTIONSORT( $A, n$ )
1  for  $i = 2$  to  $n$ 
2       $key = A[i]$ 
3       $j = i - 1$ 
4      while  $j > 0$  and  $A[j] > key$ 
5           $A[j + 1] = A[j]$ 
6           $j = j - 1$ 
7       $A[j + 1] = key$ 
    
```

Here's how we typeset the above function in CLRS style:

```

\begin{codebox}
\Procname{\proc{InsertionSort}(A, n)}
\li \For $i \gets 2 \To n$
\Do
\li $\id{key} \gets A[i]$
\li $j \gets i - 1$
\li \While $j > 0$ and $A[j] > \id{key}$
\Do
\li $A[j+1] = A[j]$
\li $j \gets j-1$
\End
\li $A[j+1] \gets \id{key}$
\End
\end{codebox}
    
```