CS3000: Algorithms & Data — Summer '23 — Laney Strange

Selection Sort

We went over the Selection 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 sorts it according to the Selection Sort algorithm; it does not return anything. (In CLRS, functions working with arrays usually take in n as the length, but in our class it's fine to just use $A.length$ instead.

SELECTIONSORT(A)
1 **for** $i = 1$ **to** $A.length - 1$
2 $min = i$
3 **for** $j = i + 1$ **to** $A.length$
4 **if** $A[j] < A[min]$
5 $min = j$
6 swap $A[i], A[min]$

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

```
\begin{codebox}
\Procname{$\proc{SelectionSort}(A)$}
\li \For $i \gets 1 \To \id{A.length} - 1$
\Do
\li $\id{min} = i$
\li \For $j \gets i+1 \To \id{A.length}$
\Do
\li \If $A[j] < \id{A[min]}$
\Then
\li $\id{min} = j$
\End
\End
\li swap $A[i], \id{A[min]}$
\end{codebox}
```