Selection sort

Scan   list   and   move   min   to   a   new   list

Dry run

74   32   89   55   ~~21~~   64

21

74   32   89   55   ~~21~~   64
21   32

74   ~~32~~   89   ~~55~~   ~~21~~   64
21   32   55

74   ~~32~~   89   ~~55~~   ~~21~~   ~~64~~
21   32   55   64

~~74~~   ~~32~~   89   ~~55~~   ~~21~~   ~~64~~
21   32   55   64   74

~~74~~   ~~32~~   ~~89~~   ~~55~~   ~~21~~   ~~64~~
21   32   55   64   74   89

Select sorting in place:

- Find min elt. Swap with elt in 1st pos of list
- Find second min elt. swap with elt in 2nd pos of list
   $\vdots$

Dry run

74   32   89   55   21   64 $O(n)$

21   32   89   55   74   64 $O(n-1)$

21   32   89   55   74   64

21   32   55   89   74   64 $\vdots$

21   32   55   64   74   89

21   32   55   64   74   89 $O(1)$

21   32   55   64   74   89

$\longrightarrow$ $O(n^2)$