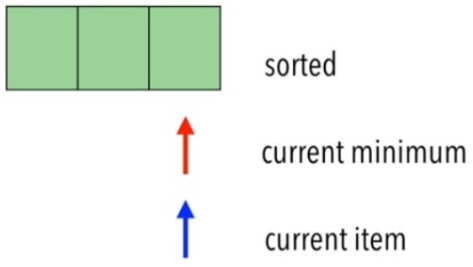
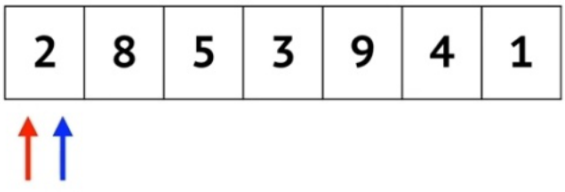
SELECTION SORT

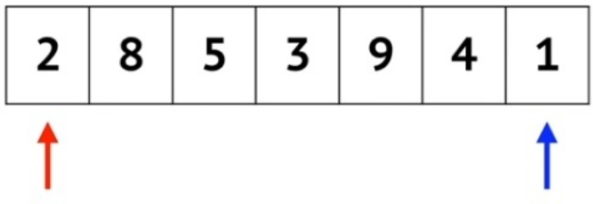


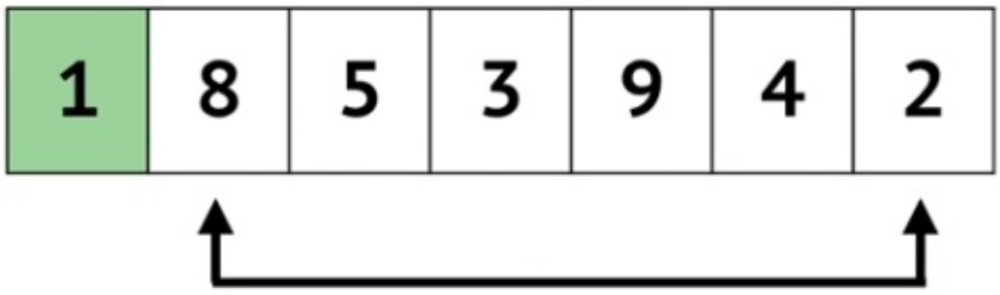
During each iteration we'll select the smallest item from the unsorted partition and move it to the sorted partition.

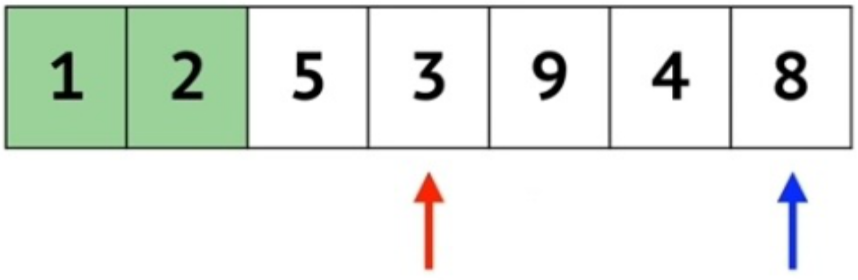
current minimum
current item

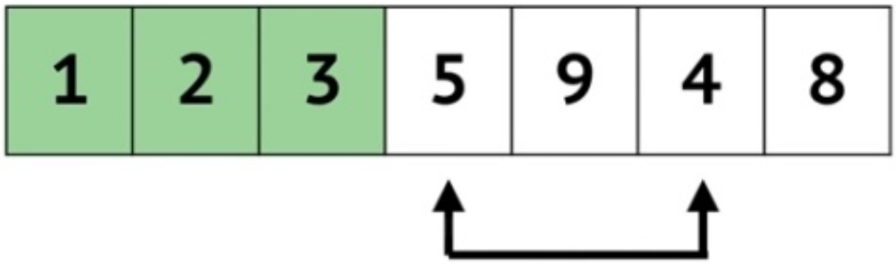


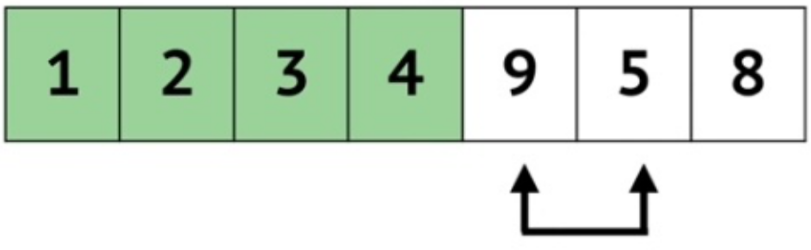
current minimum
current item

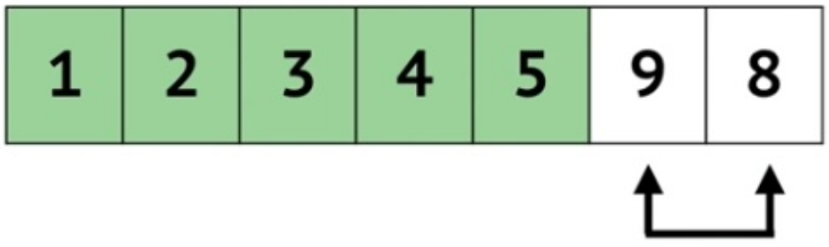



1
8
5
3
9
4
2


1
2
5
3
9
4
8


1
2
3
5
9
4
8


1
2
3
4
9
5
8




```
for (j = 0; j < n-1; j++)
    int iMin = j;
    for (i = j+1; i < n; i++)
      if (a[i] < a[iMin])
          iMin = i;
    if (iMin != j)
      swap(a[j], a[iMin]);
```

$O(n^2)$