

Selection Sort

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---



Comparison



Data Movement






Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---




-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---

-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---



Comparison



Data Movement



Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---



Comparison



Data Movement






Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---




-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---

-  Comparison
-  Data Movement
-  Sorted


CSCU9A3 2017

Sorting

Selection Sort

5	1	3	4	6	2
---	---	---	---	---	---

↑
Smallest




-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort

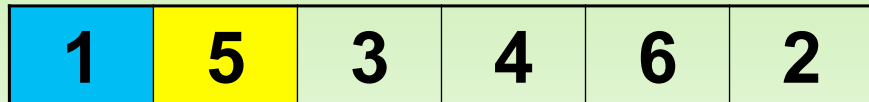
1	5	3	4	6	2
---	---	---	---	---	---




-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort






-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

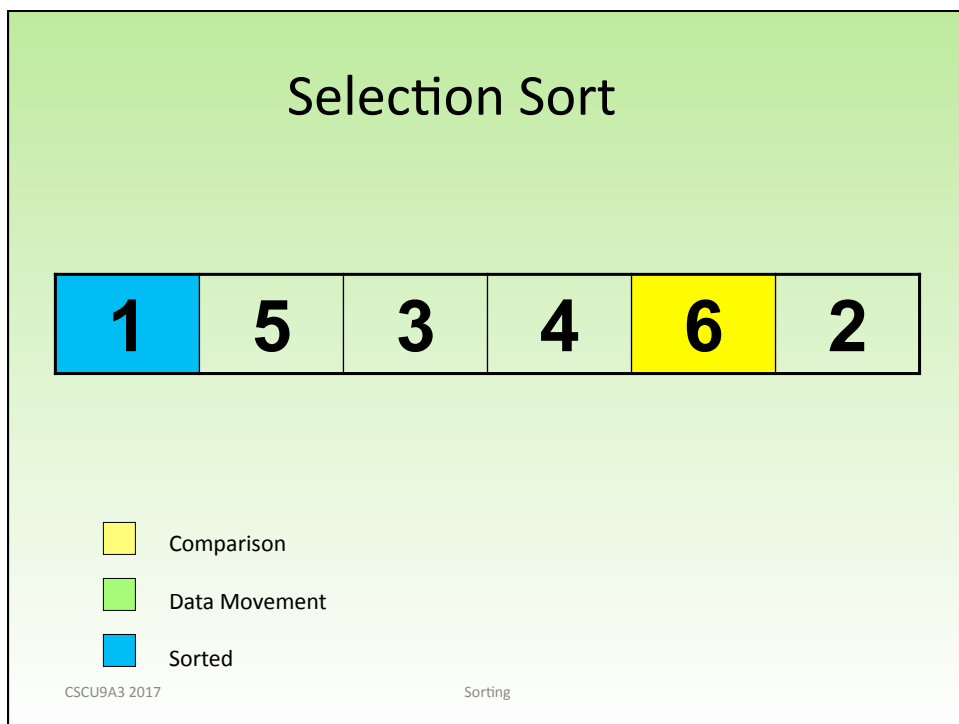
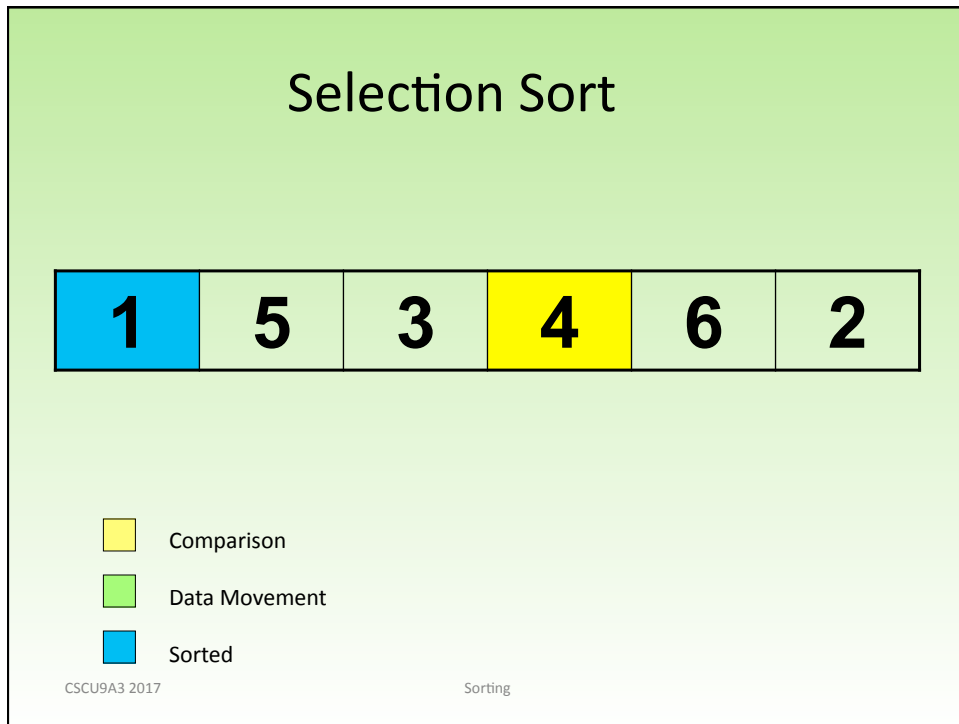
Selection Sort

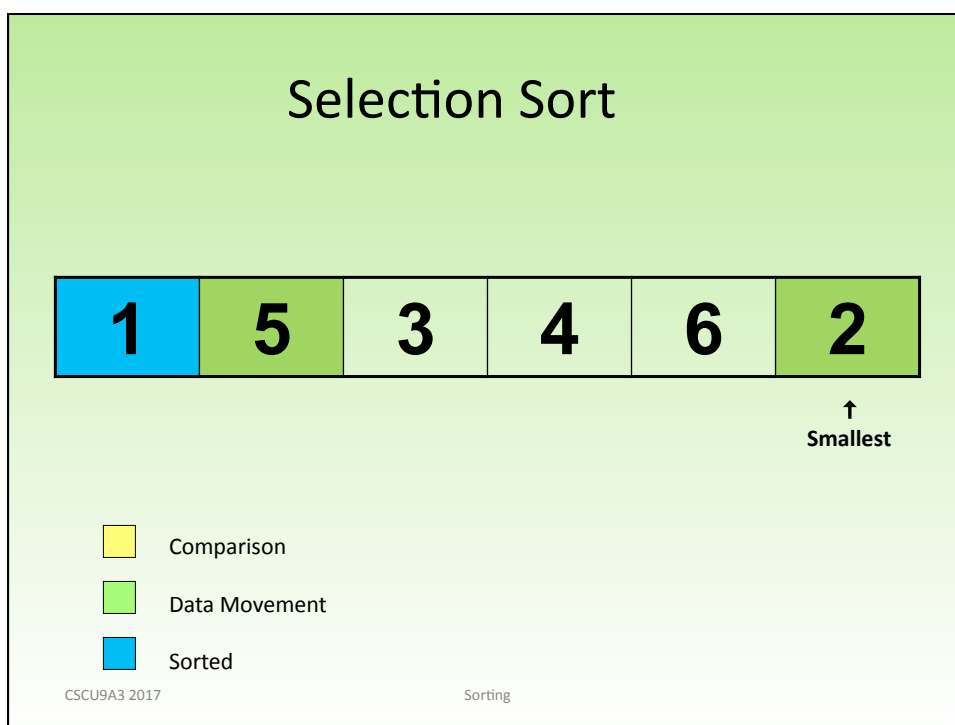
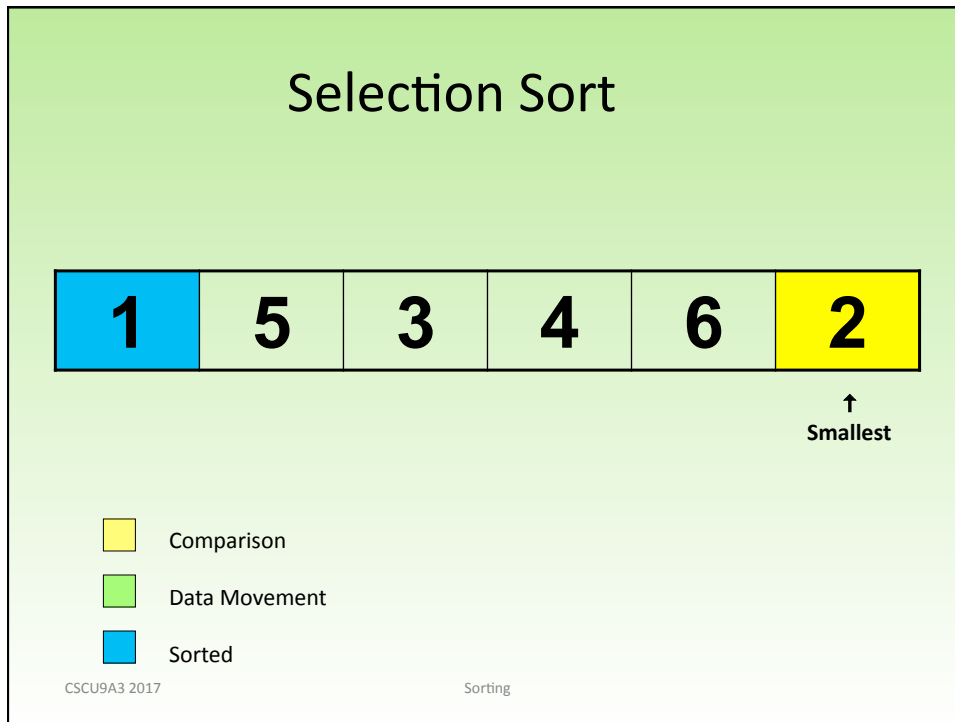


-  Comparison
-  Data Movement
-  Sorted

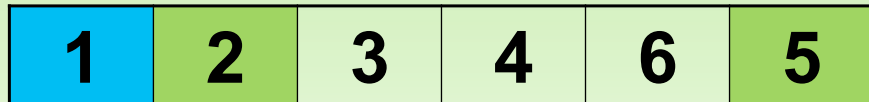
CSCU9A3 2017




Sorting





Selection Sort

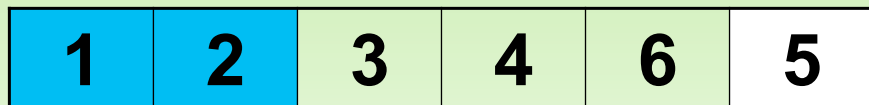





-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort



-  Comparison
-  Data Movement
-  Sorted

CSCU9A3 2017

Sorting

Selection Sort Algorithm

Input: An array 'A' of n comparable items

Output: The array 'A' with elements in non-decreasing order

SelectionSort(A)

 for $i \leftarrow 0$ to $n-2$ do

 //Insert smallest item in 0th slot, 2nd smallest in 1st, etc.

$\text{min} \leftarrow i$

 for $j \leftarrow i+1$ to $j \leq n-1$ do

 if ($A[j] < A[\text{min}]$)

$\text{min} \leftarrow j$

 swap $A[i]$ and $A[\text{min}]$.

What is the complexity of Selection Sort?

CSCU9A3 2017

Sorting