

# **Data Structures and Algorithm**

Chapter - 8.2

## **Selection Sort Algorithms**

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## **What is Selection Sort Algorithm?**

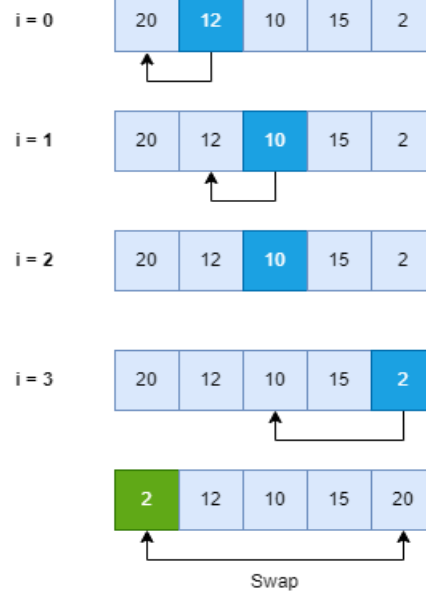
The selection sort algorithm sorts an array by repeatedly finding the minimum element from the unsorted part and putting it at the beginning.

## How Selection Sort Algorithm Works

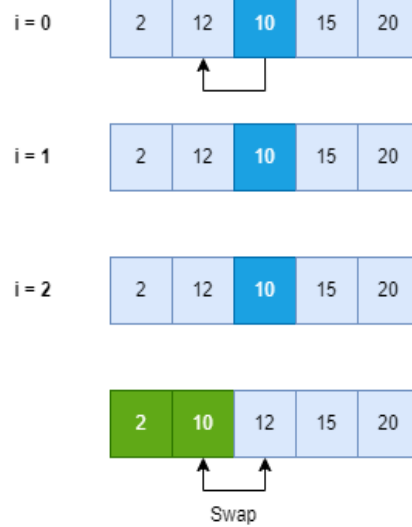
- Step 1 : Set the first element as a minimum.
- Step 2 : Compare the minimum with the second element. If the second element is smaller than the minimum, assign the second element as the minimum.  
Compare minimum with the third element. Again, if the third element is smaller, then assign a minimum to the third element otherwise do nothing.  
The process goes on until the last element.
- Step 3 : After each iteration, the minimum is placed in the front of the unsorted list.
- Step 4 : For each iteration, indexing starts from the first unsorted element. Steps 1 to 3 are repeated until all the elements are placed in their correct positions.

# Example

Step 0



Step 1



**Step 2**

i = 0

2	10	12	15	20
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i = 1

2	10	12	15	20
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2	10	12	15	20
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**Step 3**

2	10	12	15	20
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