

Explain selection sort algorithm with example.

Q - Explain selection sort algorithm with example.

Selection sort is a simple sorting algorithm.

This sorting algorithm is an in-place comparison-based algorithm in which the list is divided into two parts, the sorted part at the left end and the unsorted part at the right end. Initially, the sorted part is empty and the unsorted part is the entire list.

The smallest element is selected from the unsorted array and swapped with the leftmost element, and that element becomes a part of the sorted array. This process continues moving unsorted array boundary by one element to the right.

This algorithm is not suitable for large data sets as its average and worst case complexities are of $O(n^2)$, where n is the number of items.

-example

procedure selection sort

list :array of items

n size of list

for i = 1 to n - 1

*/ set current element as minimum */

min = i

*/ check the element to be minimum */

for j = i+1 to n

if list[j] < list[min] then

min = j;

end if

end for

*/ swap the minimum element with the
current element */

if indexmin != i then

swap list[min] and list[i]

end if

end for

end procedure