**2.2 SELECTION SORTING**

**AIM**

To describe the Selection Sort algorithm's process of sorting an array.

**ALGORITHM**

1.For each index i from 0 to n-2:

2. Assume the element at i is the smallest.

3.Compare it with the rest of the unsorted region.

4.Find the index of the smallest element.

5.Swap the smallest element with arr[i].

**PROGRAM**

A screenshot of a computer program

AI-generated content may be incorrect.

Input:

[5, 2, 9, 1, 5, 6]

Output:

A screenshot of a computer program

AI-generated content may be incorrect.

**RESULT:**

Thus the program is successfully executed and the output is verified.

**PERFORMANCE ANALYSIS:**

* Time Complexity:
  + Best Case (Already Sorted): Still scans entire array → O(n²) comparisons, O(n) swaps.
  + Worst Case (Reverse Sorted): O(n²) comparisons, O(n) swaps.
  + Average Case: O(n²) comparisons.
* Space Complexity:
  + O(1) (in-place sorting).