Selection Sort

Selection sort is generally used for sorting files with very large records and small keys. It selects the smallest (or largest) element in the array and then removes it to place in a new list. Doing this multiple times would yield the sorted array.

**Steps**

1. Select the first element of the list.
2. Compare the selected element with all other elements in the list.
3. For every comparison, if any element is smaller (or larger) than selected element, swap these two elements.
4. Repeat the same procedure with next position in the list till the entire list is sorted.

Table

Description automatically generated with low confidence

1. //
2. // DS Handbook
3. // Selection Sort
4. //
5. #include <stdio.h>
7. **int** main()
8. {
9. **int** array[100], n, pos, temp, i, j;
11. printf("Enter number of elements\n");
12. scanf("%d", &n);
14. printf("Enter the %d values\n", n);
16. **for** (i = 0; i < n; i++)
17. scanf("%d", &array[i]);
19. **for** (i = 0; i < (n - 1); i++)
20. {
21. pos = i;
23. **for** (j = i + 1; j < n; j++)
24. {
25. **if** (array[pos] > array[j])
26. pos = j;
27. }
28. **if** (pos != i)
29. {
30. temp = array[i];
31. array[i] = array[pos];
32. array[pos] = temp;
33. }
34. }
36. printf("Sorted list in ascending order:\n");
38. **for** (i = 0; i < n; i++)
39. printf("%d\n", array[i]);
41. **return** 0;
42. }</stdio.h>