Program

```c
#include <stdio.h>
#define MAX_SIZE 100

int size;
int array[MAX_SIZE];

void readInput() {
    printf("Enter the size of the array: ");
    scanf("%d", &size);
    printf("Enter the array elements:\n");
    for (int i = 0; i < size; i++) {
        scanf("%d", &array[i]);
    }
}

void selectionSort() {
    for (int i = 0; i < size - 1; i++) {
        int min_index = i;
        for (int j = i + 1; j < size; j++) {
            if (array[j] < array[min_index]) {
                min_index = j;
            }
        }
        if (min_index != i) {
            int temp = array[i];
            array[i] = array[min_index];
            array[min_index] = temp;
        }
    }
}

void printArray() {
    printf("Sorted array:\n");
    for (int i = 0; i < size; i++) {
        printf("%d ", array[i]);
    }
    printf("\n");
}

int main() {
    readInput();
    selectionSort();
    printArray();
    return 0;
}
```

SELECTION SORT

Aim:

To implement selection sort algorithm.

Algorithm:

1. **Start**

2. Set $MAX\_SIZE = 100$

3. Declare an integer variable $size$ and an integer array $array[MAX\_SIZE]$

4. **Function ReadInput()**

```
Print "Enter the size of the array:"
Read size
Print "Enter the array elements:"
For i = 0 to size - 1:
    Read array[i]
```

5. **Function SelectionSort()**

```
For i = 0 to size - 2:
    Set min_index = i
    For j = i + 1 to size - 1:
        If array[j] < array[min_index], then
            Set min_index = j
    If min_index is not equal to i:
        Swap array[i] and array[min_index]
```

6. **Function PrintArray()**

```
Print "Sorted array:"
For i = 0 to size - 1:
    Print array[i]
```

7. **Function Main()**

```
Call ReadInput()
Call SelectionSort()
Call PrintArray()
```

8. **Stop**

Output

```
Enter the size of the array: 9
Enter the array elements:
3 0 1 9 2 5 6 8 7
Sorted array:
0 1 2 3 5 6 7 8 9


Enter the size of the array: 7
Enter the array elements:
5 9 1 3 6 2 8
Sorted array:
1 2 3 5 6 8 9
```

Result:

Program has been executed successfully and obtained the output.