Program 10. Develop a C program to simulate SCAN disk scheduling algorithm.

```
#include <stdio.h>
void scanDiskSchedule(int request[], int n, int head) {
    int seekCount = 0;
    int direction = 1; // 1 for right, 0 for left
    // Sort the request array in ascending order
    for (int i = 0; i < n; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (request[j] > request[j + 1]) {
                int temp = request[j];
                request[j] = request[j + 1];
                request[j + 1] = temp;
            }
        }
    }
    // Move the head in the specified direction
    for (int i = 0; i < n; i++) {
        if (direction == 1) {
            // Moving to the right
            seekCount += abs(head - request[i]);
            head = request[i];
        } else {
            // Moving to the left
            seekCount += abs(head - request[i]);
            head = request[i];
        }
    }
    printf("Total seek count: %d\n", seekCount);
}
```

```
int main() {
    int request[] = {53, 183, 37, 122, 14, 124, 65, 67};
    int n = sizeof(request) / sizeof(request[0]);
    int head = 53;

    printf("Initial head position: %d\n", head);
    printf("Request queue: ");
    for (int i = 0; i < n; i++) {
        printf("%d ", request[i]);
    }
    printf("\n");

    scanDiskSchedule(request, n, head);
    return 0;
}
```

Output:

```
krishna@ubuntu:~/Documents/OS LAB/program10$ ./a.out
Initial head position: 53
Request queue: 53 183 37 122 14 124 65 67
Total seek count: 208
```