C-SCAN

```c
#include <stdio.h>
#include <stdlib.h>
void sort(int arr[], int n) {
    for (int i = 0; i < n - 1; i++) {
        for (int j = 0; j < n - i - 1; j++) {
            if (arr[j] > arr[j + 1]) {
                int temp = arr[j];
                arr[j] = arr[j + 1];
                arr[j + 1] = temp;
            }
        }
    }
}
int main() {
    int n, i, head, size, direction;
    int req[100], seekSeq[200], seekCount = 0;
    int index, j = 0;
    printf("Enter number of requests: ");
    scanf("%d", &n);
    printf("Enter request sequence: ");
    for (i = 0; i < n; i++)
        scanf("%d", &req[i]);
    printf("Enter initial head position: ");
    scanf("%d", &head);
    printf("Enter disk size: ");
    scanf("%d", &size);
    printf("Enter head direction (1 = high/end, 0 = low/start): ");
```

```c
scanf("%d", &direction);
req[n++] = 0;
req[n++] = size - 1;
sort(req, n);
for (i = 0; i < n; i++) {
    if (head < req[i]) {
        index = i;
        break;
    }
}
if (direction == 1) {
    for (i = index; i < n; i++)
        seekSeq[j++] = req[i];
    for (i = 0; i < index; i++)
        seekSeq[j++] = req[i];
} else {
    for (i = index - 1; i >= 0; i--)
        seekSeq[j++] = req[i];
    for (i = n - 1; i >= index; i--)
        seekSeq[j++] = req[i];
}
printf("\nSeek Sequence: ");
for (i = 0; i < j; i++) {
    printf("%d ", seekSeq[i]);
    seekCount += abs(head - seekSeq[i]);
    head = seekSeq[i];
}
printf("\nTotal Seek Time = %d\n", seekCount);
return 0;
```

}