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1  #include <stdio.h>
2  #include <stdlib.h>
3  int main() {
4      int n, head, seek_time = 0;
5      printf("Enter the number of disk requests: ");
6      scanf("%d", &n);
7      int request_queue[n];
8      printf("Enter the disk request queue:\n");
9      for (int i = 0; i < n; i++) {
10         scanf("%d", &request_queue[i]);
11     }
12     printf("Enter the initial position of the disk head: ");
13     scanf("%d", &head);
14     for (int i = 0; i < n - 1; i++) {
15         for (int j = i + 1; j < n; j++) {
16             if (request_queue[i] > request_queue[j]) {
17                 int temp = request_queue[i];
18                 request_queue[i] = request_queue[j];
19                 request_queue[j] = temp;
20             }
21         }
22     }
23     int disk_start = 0;
24     int disk_end = 199;
25     printf("\nC-SCAN Disk Scheduling:\n");
26     printf("Head Movement Sequence: %d", head);
27     int i;
28     for (i = 0; i < n; i++) {
29         if (request_queue[i] >= head) {
30             break;
31         }
32     }

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33 for (int j = i; j < n; j++) {
34     seek_time += abs(head - request_queue[j]);
35     head = request_queue[j];
36     printf(" -> %d", head);
37 }
38 if (head != disk_end) {
39     seek_time += abs(head - disk_end);
40     head = disk_end;
41     printf(" -> %d", head);
42 }
43 seek_time += abs(head - disk_start);
44 head = disk_start;
45 printf(" -> %d", head);
46 for (int j = 0; j < i; j++) {
47     seek_time += abs(head - request_queue[j]);
48     head = request_queue[j];
49     printf(" -> %d", head);
50 }
51 printf("\nTotal Seek Time: %d\n", seek_time);
52 printf("Average Seek Time: %.2f\n", (float)seek_time / n);
53 return 0;
54 }
```

Enter the number of disk requests: 3

Enter the disk request queue:

68

90

24

Enter the initial position of the disk head: 5

C-SCAN Disk Scheduling:

Head Movement Sequence: 5 -> 24 -> 68 -> 90 -> 199 -> 0

Total Seek Time: 393

Average Seek Time: 131.00

Process exited after 14.37 seconds with return value 0

Press any key to continue . . . |