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#include <stdio.h>
#include <stdlib.h>

int main() {
    int request[100], n, head, i, j, seek = 0, temp;
    int disk_size, direction;

    printf("Enter the number of disk requests: ");
    scanf("%d", &n);

    printf("Enter the request sequence: ");
    for (i = 0; i < n; i++)
        scanf("%d", &request[i]);

    printf("Enter the initial head position: ");
    scanf("%d", &head);

    printf("Enter total disk size (e.g., 200): ");
    scanf("%d", &disk_size);

    // direction = 1 means moving away from spindle (towards higher tracks)
    direction = 1;

    // Sort the request array
    for (i = 0; i < n - 1; i++) {
        for (j = i + 1; j < n; j++) {
            if (request[i] > request[j]) {
                temp = request[i];
                request[i] = request[j];
                request[j] = temp;
            }
        }
    }
}
```

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    }

}

// Find position of head in the sorted list
int pos;
for (i = 0; i < n; i++) {
    if (head < request[i]) {
        pos = i;
        break;
    }
}

printf("\nInitial Head Position: %d", head);
printf("\nHead moving away from spindle (towards higher tracks)\n");
printf("Order of service (SCAN):\n");

// First move towards higher tracks
for (i = pos; i < n; i++) {
    printf("%d ", request[i]);
    seek += abs(request[i] - head);
    head = request[i];
}

// After reaching the end, move to the highest track (outermost)
if (head != disk_size - 1) {
    seek += abs((disk_size - 1) - head);
    head = disk_size - 1;
}

// Then move back towards lower tracks (inner side)
for (i = pos - 1; i >= 0; i--) {

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printf("%d ", request[i]);  
seek += abs(request[i] - head);  
head = request[i];  
}  
  
printf("\n\nTotal Seek Time = %d", seek);  
printf("\nAverage Seek Time = %.2f\n", (float)seek / n);  
  
return 0;  
}
```

## OUTPUT

```
Enter the number of disk requests: 6  
Enter the request sequence: 176 79 34 60 92 11  
Enter the initial head position: 50  
Enter total disk size (e.g., 200): 200  
Initial Head Position: 50  
Head moving away from spindle (towards higher tracks)  
Order of service (SCAN):  
60 79 92 176 34 11
```

Total Seek Time = 389

Average Seek Time = 64.83