

```

#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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    }  
}
```

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

```
printf("\nInitial Head Position: %d", head);
```

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printf("\nHead moving away from spindle (towards higher tracks)\n");
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```
printf("Order of service (SCAN):\n");
```

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

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// After reaching the end, move to the highest track (outermost)
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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--) {
```

```

    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

```