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#include <stdio.h>

#include <stdlib.h>

int main()
{
    int RQ[100], i, j, n, TotalHeadMoment = 0, initial, size, move;

    printf("Enter the number of Requests\n");

    scanf("%d", &n);

    printf("Enter the Requests sequence\n");

    for (i = 0; i < n; i++) scanf("%d", &RQ[i]);

    printf("Enter initial head position\n");

    scanf("%d", &initial);

    printf("Enter total disk size\n");

    scanf("%d", &size);

    printf("Enter the head movement direction for high 1 and for low 0\n");

    scanf("%d", &move);

    for (i = 0; i < n; i++)
    {
        for (j = 0; j < n - i - 1; j++)
        {
            if (RQ[j] > RQ[j + 1])
            {
                int temp = RQ[j];

                RQ[j] = RQ[j + 1];

                RQ[j + 1] = temp;
            }
        }
    }

    int index;

    for (i = 0; i < n; i++)
    {
        if (initial < RQ[i])
        {

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        index = i;
        break;
    }
}
if (move == 1)
{
    for (i = index; i < n; i++)
    {
        TotalHeadMoment += abs(RQ[i] - initial);
        initial = RQ[i];
    }
    TotalHeadMoment += abs(size - RQ[i - 1] - 1);
    TotalHeadMoment += abs(size - 1 - 0);
    initial = 0;
    for (i = 0; i < index; i++)
    {
        TotalHeadMoment += abs(RQ[i] - initial);
        initial = RQ[i];
    }
}
else
{
    for (i = index - 1; i >= 0; i--)
    {
        TotalHeadMoment += abs(RQ[i] - initial);
        initial = RQ[i];
    }
    TotalHeadMoment += abs(RQ[i + 1] - 0);
    TotalHeadMoment += abs(size - 1 - 0);
    initial = size - 1;
    for (i = n - 1; i >= index; i--)
    {

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    TotalHeadMoment += abs(RQ[i] - initial);  
    initial = RQ[i];  
}  
}  
printf("Total head movement is %d", TotalHeadMoment);  
return 0;  
}
```