#include <stdio.h>

#include <stdlib.h>

#include <stdbool.h>

void sstf(int requests[], int n, int head)

{

bool visited[100] = {false};

int total\_movement = 0;

int current\_position = head;

for (int i = 0; i < n; i++)

{

int closest = -1;

int min\_distance = 1000;

for (int j = 0; j < n; j++)

{

if (!visited[j])

{

int distance = abs(current\_position - requests[j]);

if (distance < min\_distance)

{

min\_distance = distance;

closest = j;

}

}

}

visited[closest] = true;

total\_movement += min\_distance;

current\_position = requests[closest];

printf("Served request: %d\n", requests[closest]);

}

printf("Total head movement: %d\n\n", total\_movement);

}

int main()

{

int n, head;

printf("Enter the number of requests : ");

scanf("%d", &n);

int requests[n];

printf("Enter the requests : ");

for (int i = 0; i < n; i++)

{

scanf("%d", &requests[i]);

}

printf("Enter the initial head position: ");

scanf("%d", &head);

sstf(requests, n, head);

return 0;

}

OUTPUT

Enter the number of requests : 5

Enter the requests : 10 50 30 20 40

Enter the initial head position: 35

Served request: 30

Served request: 20

Served request: 10

Served request: 40

Served request: 50

Total head movement: 65