# 20BCS402 MOHD ADIL Program 15 | FCFS and SSTF Disk Scheduling Algorithm

#include <iostream>

using namespace std;

void FCFS(int \*arr, int n, int head){

    int seq\_op=0;

    cout<<"\nDisk Movement details : ";

    for(int i=0; i<n; i++){

        cout<<"\n"<<head<<" -----> "<<arr[i];

        int dist = abs(arr[i]-head);

        seq\_op+=dist;

        head=arr[i];

    }

    cout<<"\n\nTotal seek operations : "<<seq\_op;

    cout<<"\nAvg Head Movement : "<<float(seq\_op)/n<<"\n";

}

int search(int \*arr, bool \*done, int n, int head){

    int idx=-1, mn = INT16\_MAX;

    for(int i=0; i<n; i++){

        if(!done[i] && arr[i]!=head && abs(head-arr[i])<mn){

            mn=abs(head-arr[i]);

            idx=i;

        }

    }

    return idx;

}

void SSTF(int \*arr, int n, int head){

    int seq\_op=0;

    bool done[n]={false};

    cout<<"\nDisk Movement details : ";

    for(int i=0; i<n; i++){

        int findIdx = search(arr, done, n, head);

        done[findIdx]=true;

        cout<<"\n"<<head<<" -----> "<<arr[findIdx];

        int dist = abs(arr[findIdx]-head);

        seq\_op+=dist;

        head=arr[findIdx];

    }

    cout<<"\n\nTotal seek operations : "<<seq\_op;

    cout<<"\nAvg Head Movement : "<<float(seq\_op)/n<<"\n";

}

int main(){

    cout << "\n\nName : Mohd Adil \nRoll No : 20BCS042\n";

    int n;

    cout<<"\nEnter No of Sequences : ";

    cin>>n;

    int \*arr = new int[n];

    cout<<"Enter the Sequences : ";

    for(int i=0; i<n; i++){

        cin>>arr[i];

    }

    int head;

    cout<<"Enter head position : ";

    cin>>head;

    cout << "\nPress 1 for FCFS disk Scheduling Algorithm";

    cout << "\nPress 2 for SSTF disk Scheduling Algorithm";

    cout << "\nPress 3 to exit";

    while (1){

        cout << "\nEnter your choice : ";

        int ch;

        cin>>ch;

        switch (ch){

        case 1:

            FCFS(arr,n,head);

            break;

        case 2:

            SSTF(arr,n,head);

            break;

        case 3: exit(0);

        default: cout<<"\nEnter a correct choice please";

            break;

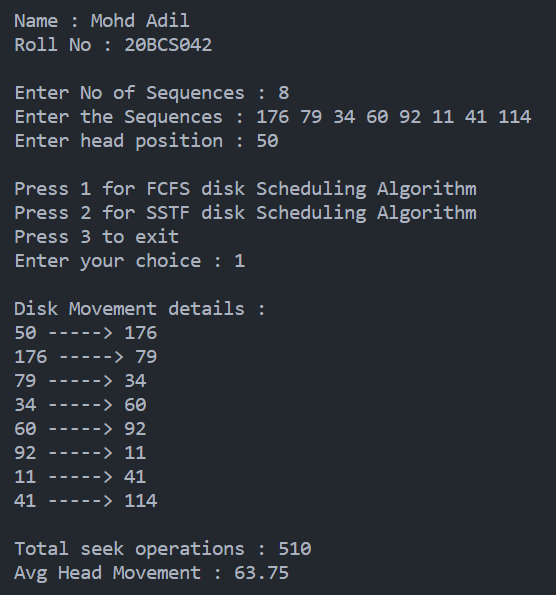
        }

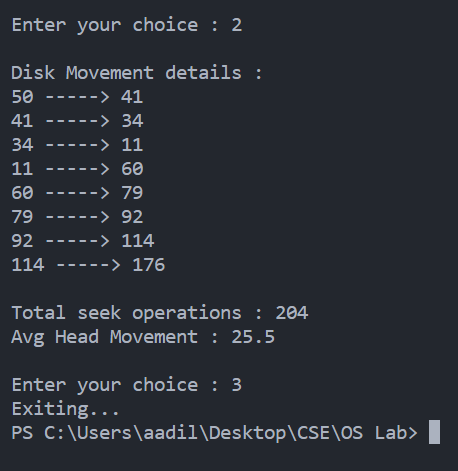
    }

    return 0;

}

**OUTPUT**

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