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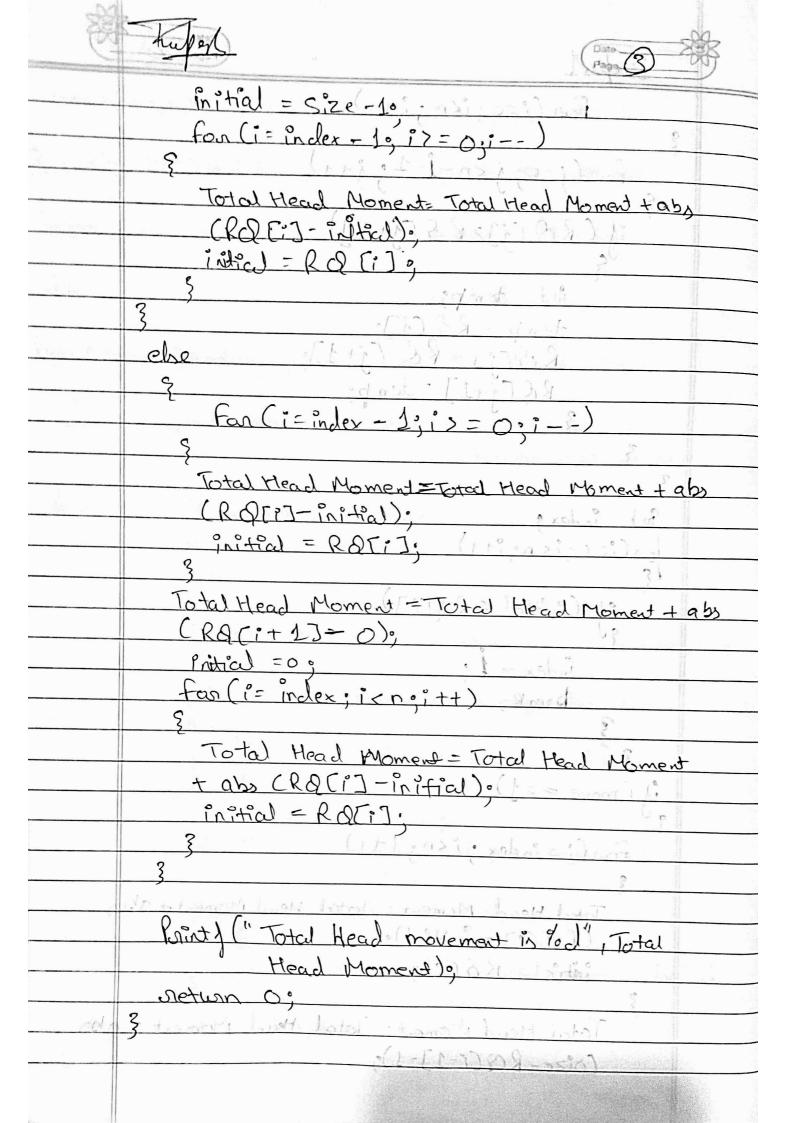
Stud-Id :- 20051031   Date :- 27-08-2021

Course :- BSC-IT   Branch :- Dehradun

Sem :- II   Sect- A

Paper Name :- Operating System   Code :- PBT-203

Q-2   Suppose that a disk drive has 100 cylinder - - - - -
      - - - - - - - - - - - that the disk arm move.

Ans :-

```c
#include <stdio.h>
#include <stdlib.h>
int main()
{
    int RQ[100], i, j, n, Total Head Moment = 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;
            temp = RQ[j];
            RQ[j] = RQ[j+1];
            RQ[j+1] = temp;
        }
    }
}

int index;
for (i=0; i<n; i++)
{
    if (initial < RQ[i])
    {
        index = i;
        break;
    }
}
if (move == 1)
{
    For (i = index; i<n; i++)
    {
        Total Head Moment = Total Head Moment + abs
            (RQ[i] - initial);
        initial = RQ[i];
    }
    Total Head Moment = Total Head Moment + abs
        (size - RQ[i-1] - 1);
```

```
            initial = Size - 1;
            for (i = index - 1; i >= 0; i--)
        {
            Total Head Moment = Total Head Moment + abs
            (RQ[i] - initial);
            initial = RQ[i];
        }
    }
    else
    {
            for (i = index - 1; i >= 0; i--)
        {
            Total Head Moment = Total Head Moment + abs
            (RQ[i] - initial);
            initial = RQ[i];
        }
            Total Head Moment = Total Head Moment + abs
            (RQ[i + 1] - 0);
            initial = 0;
            for (i = index; i < n; i++)
        {
            Total Head Moment = Total Head Moment
            + abs (RQ[i] - initial);
            initial = RQ[i];
        }
    }

            printf (" Total Head movement is %d", Total
                    Head Moment);
            return 0;
    }
```

```
D:\Workspace\scan.exe                                                          —    ⊔    ⊠

Enter the number of Requests
7
Enter the Requests sequence
12 26 24 4 42 8 50
Enter initial head position
24
Enter total disk size
100
Enter the head movement direction for high 1 and for low 0
0
Total head movement is 74
-----------------------------------
Process exited after 394 seconds with return value 0
Press any key to continue . . .
```