

## LAB 13

CODE:

FIFO:

```
1  #include <stdio.h>
2  #include <conio.h>
3
4  int main() {
5      int t[20], n, i, j, tohm[20], tot = 0;
6      float avhm;
7
8      // clrscr();
9      printf("Enter the number of tracks: ");
10     scanf("%d", &n);
11
12     printf("Enter the tracks to be traversed:\n");
13     for (i = 2; i < n + 2; i++) {
14         scanf("%d", &t[i]);
15     }
16
17     for (i = 1; i < n + 1; i++) {
18         tohm[i] = t[i + 1] - t[i];
19         if (tohm[i] < 0)
20             tohm[i] = -tohm[i];
21     }
22
23     for (i = 1; i < n + 1; i++)
24         tot += tohm[i];
25
26     avhm = (float)tot / n;
27
28     printf("Tracks traversed\tDifference between tracks\n");
29     for (i = 1; i < n + 1; i++) {
30         printf("%d\t\t\t%d\n", t[i], tohm[i]);
31     }
32
33     printf("\nAverage header movements: %f", avhm);
34     getch();
35     return 0;
36 }
37
```

```
Enter the number of tracks: 5
Enter the tracks to be traversed:
45
30
70
10
20
Tracks traversed      Difference between tracks
0                      45
45                     15
30                     40
70                     60
10                     10

Average header movements: 34.000000|
```

**SSTF:**

```

1  #include <stdio.h>
2  #include <stdlib.h>
3
4  int main() {
5      int RQ[100], i, n, TotalHeadMovement = 0, initial, count = 0;
6
7      printf("Enter the number of Requests: ");
8      scanf("%d", &n);
9
10     printf("Enter the Requests sequence:\n");
11     for (i = 0; i < n; i++)
12         scanf("%d", &RQ[i]);
13
14     printf("Enter initial head position: ");
15     scanf("%d", &initial);
16
17     // Logic for SSTF disk scheduling
18     while (count != n) {
19         int min = 1000, d, index = -1;
20
21         for (i = 0; i < n; i++) {
22             d = abs(RQ[i] - initial);
23             if (min > d) {
24                 min = d;
25                 index = i;
26             }
27         }
28
29         TotalHeadMovement += min;
30         initial = RQ[index];
31         RQ[index] = 1000; // Mark as visited (Large number)
32         count++;
33     }
34
35     printf("Total head movement is %d\n", TotalHeadMovement);
36     return 0;
37 }
38

```

```
Enter the number of Requests: 6
Enter the Requests sequence:
82
170
43
140
24
16
Enter initial head position: 50
Total head movement is 188

-----
Process exited after 21.15 seconds with return value 0
Press any key to continue . . . |
```

**SCAN:**

```

1  #include <stdio.h>
2  #include <conio.h>
3
4  int main() {
5      int t[20], d[20], h, i, j, n, temp, k, atr[20], sum = 0;
6
7      // clrscr();
8      printf("Enter the number of tracks to be traversed: ");
9      scanf("%d", &n);
10
11     printf("Enter the position of head: ");
12     scanf("%d", &h);
13
14     t[0] = 0; // assuming starting track 0
15     t[1] = h;
16
17     printf("Enter the tracks:\n");
18     for (i = 2; i < n + 2; i++) {
19         scanf("%d", &t[i]);
20     }
21
22     // Bubble sort to sort the tracks array
23     for (i = 0; i < n + 2; i++) {
24         for (j = 0; j < (n + 2) - i - 1; j++) {
25             if (t[j] > t[j + 1]) {
26                 temp = t[j];
27                 t[j] = t[j + 1];
28                 t[j + 1] = temp;
29             }
30         }
31     }
32
33     // Find the index of the head position
34     for (i = 0; i < n + 2; i++) {
35         if (t[i] == h) {
36             j = i;
37             k = i;
38             break;
39         }
40     }
41
42     int p = 0;
43     // Move towards the start (0)
44     while (t[j] != 0) {
45         atr[p] = t[j];
46         j--;
47         p++;
48     }
49     atr[p] = t[j]; // add 0
50     p++;

```

Activ  
Go to

OUTPUT:

Enter the number of tracks to be traversed: 5

Enter the position of head: 50

Enter the tracks:

10

22

20

2

40

Average header movements: 10.000000

-----

Process exited after 20.38 seconds with return value 0

Press any key to continue . . . |