

Apoorv Negi

, Std Id - 2005078

Bsc IT

Roll-No - 2023036

Sec - B

Sem - II

Apoorv

(2)

```
# include <stdio.h>
int absoluteValue(int);
int int main()
{
    int queue[25], n, headPosition, i, j, k, seek = 0,
        maxRange,
        difference, temp, queue1[20], queue2[20], temp1 = 0, temp2 = 0;
    float averageSeekTime;
    printf("Enter the maximum range of Disk:");
    scanf("%d", &maxRange);
    printf("Enter the number of queue requests:");
    scanf("%d", &n);
    printf("Enter the initial head position:");
    scanf("%d", &headPosition);
    printf("Enter the disk positions to be read(queue):");
    for (i = 1; i <= n; i++)
    {
        scanf("%d", &temp);
        if (temp > headPosition)
        {
            queue1[temp1] = temp;
            temp1++;
        }
        else
    }
```

```

{
    queue2[temp2] = temp;
    temp2++;
}

for (i=0; i<temp1-1; i++)
{
    for (j=i+1; j<temp1; j++)
    {
        if (queue1[i] > queue1[j])
        {
            temp = queue1[i];
            queue1[i] = queue1[j];
            queue1[j] = temp;
        }
    }
}

for (i=0; i<temp2-1; i++)
{
    for (j=i+1; j<temp2; j++)
    {
        if (queue2[i] < queue2[j])
        {
            temp = queue2[i];
            queue2[i] = queue2[j];
            queue2[j] = temp;
        }
    }
}

for (i=1, s=0; j<temp1; i++, j++)
{
    queue[i] = queue1[j];
    queue[i] = maxrange;
}

```

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for (i=1, j=0; j<temp1; i++, j++)
{
    queue[i] = queue[2(j)];
}

queue[i] = 0;
queue[0] = headposition;
for (j=0; j<n; j++)
{
    difference = absolute value (queue[j+1] - queue[j]);
    Seek = seek + difference;
    printf ("Disk head moves from position %d to %d with  

seek %d\n", queue[j], queue[j+1], difference);
}

average seek Time = seek / (float)n;
printf ("Total seek Time = %f\n", seek);
printf ("Average seek Time = %f\n", average Seek
Time);

int absoluteValue (int x)
{
    if (x>0)
    {
        return x;
    }
    else
    {
        return x 0;
    }
}

```

Above

```
Enter the head position of Disk: 100  
Enter the number of queue requests: 7  
Enter the initial head position: 24  
Enter the disk positions to be read(queue): 12  
26  
24  
1  
42  
8  
50  
Disk head moves from position 24 to 26 with Seek 2  
Disk head moves from position 26 to 42 with Seek 16  
Disk head moves from position 42 to 50 with Seek 8  
Disk head moves from position 50 to 100 with Seek 50  
Disk head moves from position 100 to 24 with Seek 0  
Disk head moves from position 24 to 12 with Seek 0  
Disk head moves from position 12 to 8 with Seek 0  
Disk head moves from position 8 to 4 with Seek 0  
Total Seek Time= 76  
Average Seek Time= 10.857142
```

```
Process exited after 53.07 seconds with return value 0  
Press any key to continue . . .
```