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Date: 27/08/21 Course: BSc (IT) Branch: Dehradun Sem.: 2 Section: B
Subject Name: Operating System Subject Code: PRI-202 Page No. 1

```
Ans 2) #include <stdio.h>
int absolutevalue (int);
void main()
{
    int queue[25], n, headposition, i, j, k, seek=0,
    maxrange,
    difference, temp, queue1[20], queue2[20],
    temp1=0, temp2=0;
    float average seekTime;
    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 position 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++;
        }
    }
}
```

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

```

queue[i] = maxrange;
for (i = temp1 + 2, j = 0; j < temp2, i++, j++)
{
    queue[i] = queue2[j];
}
queue[i] = 0;
queue[0] = headposition;
for (j = 0; j < n; j++)
{
    difference = absolutevalue(queue[j+1] - queue[j]);
    seek = seek + difference;
    printf("Disk head moves from position %d to %d\n",
           queue[j], queue[j+1], difference);
}
average seek time = seek / (float)n;
printf("Total seek time = %d\n", seek);
printf("Average seek time = %f\n", average seek time);
}
int absolutevalue(int x)
{
    if (x > 0)
    {
        return x;
    }
    else

```



```

{
    return x*-1;
}
}

```

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```
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 . . .
```