Name = Abhay Sokhni
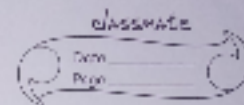Date = 27/8/2002
Student Id = 20051007
Roll no = 2023010
Subject = Operating System (practical)
Branch = Dehradun

Q2
```c
# include < stdio.h>
int absolute Value (int);
void main ()
{
    int queue [25], n, headposition, i, j, k, seek = 0, maxrange
    difference, temp, queue1 [20], queue2 [25] temp1
    = 0, temp2 = 0; float averageseek Time;
    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 [temp] = temp;
            temp1 ++;
        }
        else
```

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```c
        }
            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])
        {
```

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```
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++)
{
    queue[i] = queue2[j];
}

difference =
absolute value (queue[j+1] - queue[j];
    Seek = Seek + difference
```

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```c
        printf ("Disk head moves form position
        %d to %d with seek %d\n",
        queue[j], queue[j+1], difference);
    }
    averageSeekTime = seek/(float)n;
    printf("Total seek Time = %d\n",
seek);
        printf("Average Seek Time = %f\n",
        average Seek Time);
    }
    int absolute value(int x)
    {
        if (x>0)
    {
        return x;
    }
        else
    {
            return x*-1
        }
    }
```

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```
isk.c -o os2_scan_disk } ; i (3r) { .\os2_scan_disk }
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
Total head movement is 170
PS C:\Users\hp\c programming\operating system>
```