Graphic Era Hill University, Dehradun
(Answer Sheet for Online Examination Aug. 2021)
Please tick (√) your campus: (DEHRADUN/BHIMTAL/HALDWANI)
Name: Shivam Dang ...... Univ.Roll No. 2023090 ...... Student ID...2005107....
Date: 27 Aug 2021 Course: BScIT..... Branch: .... Sem.: II. Section: ...II
Subject Name: Operating System .... Subject Code: PII 202 Page No. ①.....

```c
Q2   #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 averageseek time;
        printf("Enter 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 <templ-1; i++)
{
    for(j =i++', i< templ'; j++)
    {
        if(queve1[i] >queve1[j])
        {
            temp = queve1[i];
            queve1[i'] = queve1[j];
            queve1[j] = temp;
        }
    }
}

for(i =0', i< temp2-1', i++)
{
    for(j = i+1', j< temp2', j++)
    {
        if(queve2[i] < queve2[j])
        {
            temp = queve2[i];
            queve2[i'] = queve2[j];
            queve2[j] = temp';
        }
    }
}

for(i=1, j =0', j <templ', i++; j++)
{
    queve[i] = queve1[j];
}
```

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```
queue1[i] = max range;
for(i = temp1 + 2; j = 0; j < temp2; i++, j++)
{
    queue[i] - queue2[j];
}
queue[i] = 0;
queue[0] = head position;
for(j = 0; j < n; j++)
{
    difference = absolute value (queue[j+1] - queue[j]);
    seek = seek + difference;
    printf(" Disk head moves from pos'1d to 1d with
            seek'1d \n", queue[j], queue[j+1], difference);
}
averageseektime = seek / (float) n;
printf(" Total Seek Time = 1d \n", seek);
printf(" Average Seek Time = 1f \n", averageseektime);
int absolute value (int x)
{
    if(x > 0)
    {
        return x;
    }
    else
    {
        return x * -1;
    }
}
```