Consider a disk queue with requests for I/O to blocks on cylinders 98, 183, 37, 122, 14, 124, 65, 67 in that order. Assume that the disk head is initially at cylinder 53. Calculate the total head movement for the number of cylinders using the following algorithms:

1. FIFO
2. C_SCAN
3. LOOK

FIFO CODE:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
int total_head_mov=0,initial_pos;
int i,n;
int req_queue[n];
printf("Enter no of Cylinders in Request queue:\n");
scanf("%d",&n);
printf("\n Enter the cylinder no:\n");
for(i=0;i<n;i++)
scanf("%d",&req_queue[i]);
printf("\n Enter initial position of head:\n");
scanf("%d",&initial_pos);
for(i=0;i<n;i++)
{
total_head_mov+=abs(initial_pos-req_queue[i]);
initial_pos=req_queue[i];
}
```

```
printf("\n Total no of Head Movement=%d\n",total_head_mov);
printf("\n Average head movements = %.2f\n",(float)total_head_mov/n);
return 0;
}
```

OUTPUT:

```
Enter no of Cylinders in Request queue:
8
Enter the cylinder no:
98 183 37 122 14 124 65 67
Enter initial position of head:
53
Total no of Head Movement= 640
Average head movements =80.00
```

C_SCAN CODE:

```
#include<stdio.h>
#include<stdlib.h>
int main()
{
int t[20], d[20], h, i, j, n, temp, k, atr[20], tot, p, sum=0;
printf("enter the no of tracks to be traveresed");
scanf("%d'",&n);
printf("enter the position of head");
 scanf("%d",&h);
t[0]=0;
t[1]=h;
 printf("enter total tracks");
scanf("%d",&tot);
t[2]=tot-1;
 printf("enter the tracks");
for(i=3;i<=n+2;i++)
scanf("%d",&t[i]);
for(i=0;i<=n+2;i++)
 for(j=0;j<=(n+2)-i-1;j++)
```

```
if(t[j]>t[j+1])
 {
temp=t[j];
 t[j]=t[j+1];
t[j+1]=temp
 }
for(i=0;i<=n+2;i++)
if(t[i]==h);
 j=i;
p=0;
while(t[j]!=tot-1)
{
 atr[p]=t[j];
 j++;
 p++;
 }
 atr[p]=t[j];
 p++;
 i=0;
while(p!=(n+3) && t[i]!=t[h])
{
atr[p]=t[i];
 i++;
p++;
 }
```

```
for(j=0;j<n+2;j++)
{
if(atr[j]>atr[j+1])
 d[j]=atr[j]-atr[j+1];
else
d[j]=atr[j+1]-atr[j];
sum+=d[j];
}
 printf("total header movements%d",sum);
 printf("avg is %f",(float)sum/n);
 }
```