GRAPHIC ERA HILL UNIVERSITY D.DUN

CAMPUS:- DEHRADUN

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Subject name:- DS Practical Subject code:-
Page no.:- 1 Signature:- Shikha
Date:- 27-08-21

(1.) Worst - Fit Memory Management

```
#include<stdio.h>
#include<conio.h>
#define max 25
void main()
{
int frag[max], b[max], f[max], i, j, nb,
nf, temp; highest = 0;
static int bf[max], ff[max];
clrscr();
printf("\n\tMemory Management Scheme -
Worst Fit");
printf("\nEnter the number of blocks: ");
scanf("%d", &nb);
printf("Enter the number of files: ");
scanf("%d", &nf);
printf("\nEnter the size of the blocks:-
\n");

for(i=1; i<=nb; i++)
{
printf("Block %d: ", i);
```

```
scanf("%d", &b[i]);
}
printf("Enter the size of the files:-\n");
for(i=1; i<=nf; i++)
{
printf("File %d: ", i);
scanf("%d", &f[i]);
}

for(i=1; i<=nf; i++)
{
    for(j=1; j<=nb; j++)
    {
        if(bf[j] != 1) // if bf[j] is not
        allocated
        {
            temp = b[j] - f[i];
            if(temp>=0)
            if(highest < temp)
            {
                ff[i] = j;
                highest = temp;
            }
    }
}
```

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```
frag[i] = highest;
bf[ ff[i] ] = 1;
highest = 0;
}

printf ("\n File_no: \t File_size : \t Block_no
: \t Block_size : \t Fragement ");

for( i= 1; i<= nf ; i++)
printf ("\n %d \t\t %d \t %d \t\t %d \t\t %d",
i, f[i], ff[i], b[ff[i]], frag[i]);
getch();
}
```

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(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 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);
```

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```
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, 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 with seek
         %d \n"; queue [j], queue [j-1];
}

averageSeekTime = seek / (float) n;
printf ("Total Seek Time = %d \n", seek);
printf ("Average Seek Time = %f \n",
averageSeekTime);
}
int absolutevalue (int x)
{
    if (x > 0)
    {
        return x;
    }
    else
    {
        return x * -1;
    }
}
```

```c
// C Program to Simulate SCAN D
//visit www.nanogalaxy.org for

#include<stdio.h>
int absoluteValue(int); // Decl

```

input

```
Enter the maximum range of Disk: 9
9
Enter the number of queue requests
: 7
Enter the initial head position: 1
2
Enter the disk positions to be rea
d(queue): 12,26,24,4,42,8,50
Disk head moves from position 12 t
o 99 with Seek 87
Disk head moves from position 99 t
o 12 with Seek 87
Disk head moves from position 12 t
o 12 with Seek 0
Disk head moves from position 12 t
o 12 with Seek 0
Disk head moves from position 12 t
o 12 with Seek 0
Disk head moves from position 12 t
o 12 with Seek 0
Disk head moves from position 12 t
o 12 with Seek 0
Disk head moves from position 12 t
o 12 with Seek 0
Total Seek Time= 174
Average Seek Time= 24.857143


...Program finished with exit code
 0
Press ENTER to exit console.
```