

20. Consider a file system that brings all the file pointers together into an index block. The i th entry in the index block points to the i th block of the file. Design a C program to simulate the file allocation strategy.

```

1 #include<stdio.h>
2 #include<conio.h>
3 #include<stdlib.h>
4 int main()
5 {
6     int f[50], index[50], i, n, st, len, j, c, k, ind, count=0;
7     for(i=0; i<50; i++)
8     {
9         f[i]=0;
10        x:printf("Enter the index block: ");
11        scanf("%d", &ind);
12        if(f[ind]!=-1)
13        {
14            printf("Enter no of blocks needed and no of files for the index %d on the disk : \n", ind);
15            scanf("%d", &n);
16        }
17        else
18        {
19            printf("File in the index is already allocated \n", ind);
20            goto x;
21        }
22        y: count=0;
23        for(i=0; i<n; i++)
24        {
25            scanf("%d", &index[i]);
26            if(f[index[i]]==0)
27            {
28                count++;
29            }
30            if(count==n)
31            {
32                for(j=0; j<n; j++)
33                {
34                    f[index[j]]=i;
35                }
36                printf("Allocated\n");
37                printf("File Indexed\n");
38                for(k=0; k<n; k++)
39                {
40                    printf("%d----->%d : %d\n", ind, index[k], f[index[k]]);
41                }
42            }
43            else
44            {
45                printf("File in the index is already allocated \n");
46                printf("Enter another file indexed");
47                goto y;
48            }
49        }
50        printf("Do you want to enter more file(Yes - 1/No - 0)");
51        scanf("%d", &c);
52        if(c==1)
53        {
54            goto x;
55        }
56        else
57        {
58            exit(0);
59        }
60        getch();
61    }
62 }

```

C:\Users\kalya\OneDrive\Desktop\19.exe

```

Enter the index block: 5
Enter no of blocks needed and no of files for the index 5 on the disk :
2
3
4
Allocated
File Indexed
5----->3 : 1
5----->4 : 1
Do you want to enter more file(Yes - 1/No - 0)1
Enter the index block: 3
3 index is already allocated
Enter the index block: 2
Enter no of blocks needed and no of files for the index 2 on the disk :
3
2
1
1
Allocated
File Indexed
2----->2 : 1
2----->1 : 1
2----->1 : 1
Do you want to enter more file(Yes - 1/No - 0)

```