S.No: 9	Exp. Name: ***Implement file storage allocation technique: Indirect allocation (indexing).***	Date:2025-04-12

Aim:

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Description: Indexed allocation method eliminates the disadvantages of linked list allocation bybringing all the pointers together into one location, called the index block.

Source Code:

Indirectallocation.c

```
#include<stdio.h>
#include<stdlib.h>
void main()
{
   int f[50],index[50],i,n,st,len,j,co,k,ind,c=0;
   for(i=0;i<50;i++)
      f[i]=0;
   x:printf("Enter the index block: ");
   scanf("%d",&ind);
   if(f[ind]!=1)
   {
      printf("Enter no of blocks needed and no of files for the index %d on the disk
: \n",ind);
      scanf("%d",&n);
   }
   else
   {
      printf("%d index is already allocated \n",ind);
      goto x;
   }
   y: c=0;
   for(i=0;i<n;i++)
      {
         scanf("%d",&index[i]);
         if(f[index[i]]==0)
            c++;
      }
   if(c==n)
   {
      for(j=0;j<n;j++)
         f[index[j]]=1;
      printf("Allocated\n");
      printf("File Indexed\n");
      for(k=0;k<n;k++)
         printf("%d-------->%d : %d\n",ind,index[k],f[index[k]]);
   }
   else
   {
      printf("File in the index is already allocated \n");
      printf("Enter another file indexed");
      goto y;
   }
```

```
    printf("Do you want to enter more file(Yes - 1/No - 0)");
    scanf("%d",&co);
    if(co==1)
       goto x;
    else
       exit(0);
 }
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter the index block: 5
Enter no of blocks needed and no of files for the index 5 on the disk : 4
1 2 3 4
Allocated 1
File Indexed 1
5--------->1 : 1 1
5--------->2 : 1 1
5--------->3 : 1 1
5--------->4 : 1 1
Do you want to enter more file(Yes - 1/No - 0) 1
Enter the index block: 4
4 index is already allocated 6
Enter the index block: 6
Enter no of blocks needed and no of files for the index 6 on the disk : 2
7 8
Allocated 0
File Indexed 0
6--------->7 : 1 0
6--------->8 : 1 0
Do you want to enter more file(Yes - 1/No - 0) 0

Test Case - 2
User Output
Enter the index block: 3
Enter no of blocks needed and no of files for the index 3 on the disk : 3
1 2 3
Allocated 0
File Indexed 0
3--------->1 : 1 0
3--------->2 : 1 0
3--------->3 : 1 0
Do you want to enter more file(Yes - 1/No - 0) 0

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