S.No: 8	Exp. Name: ***Implement file storage allocation technique using linked-list.***	Date:2025-04-09

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Aim:

Aim: Implement file storage allocation technique: Linked–list (using linked-list).

Description: This method solves all problems of contiguous allocation. In linked allocation scheme each file is a linked list of disk blocks scattered on the disk. The first word of each block is used as a pointer to the next one and the rest of block is used for data.

Source Code:

Linkedlist.c

```
#include<stdio.h>
#include<stdlib.h>
void main()
{
   int f[50],p,i,st,len,j,c,k,a;
   for(i=0;i<50;i++)
      f[i]=0;
   printf("Enter how many blocks already allocated: ");
   scanf("%d",&p);
   printf("Enter blocks already allocated: ");
   for(i=0;i<p;i++)
      {
         scanf("%d",&a);
         f[a]=1;
      }
   x: printf("Enter index starting block and length: ");
   scanf("%d%d",&st,&len);
   k=len;
   if(f[st]==0)
   {
      for(j=st;j<(st+k);j++)
         {
            if(f[j]==0)
            {
               f[j]=1;
               printf("%d-------->%d\n",j,f[j]);
            }
            else
            {
               printf("%d Block is already allocated \n",j);
               k++;
            }
         }
   }
   else
      printf("%d starting block is already allocated \n",st);
   printf("Do you want to enter more file(Yes - 1/No - 0)");
   scanf("%d",&c);
   if(c==1)
      goto x;
}
```

Execution Results - All test cases have succeeded!

Test Case - 1
User Output
Enter how many blocks already allocated: 3
Enter blocks already allocated: 1 3 5
Enter index starting block and length: 2 2
2--------->1 0
3 Block is already allocated 0
4--------->1 0
Do you want to enter more file(Yes - 1/No - 0) 0

Test Case - 2
User Output
Enter how many blocks already allocated: 5
Enter blocks already allocated: 1 2 3 4 5
Enter index starting block and length: 1 3
1 starting block is already allocated 1
Do you want to enter more file(Yes - 1/No - 0) 1
Enter index starting block and length: 6 2
6--------->1 0
7--------->1 0
Do you want to enter more file(Yes - 1/No - 0) 0

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