Exp. No: 8 Date : 09-10-2020

FILE ALLOCATION STRATEGIES

AIM

Implement the file allocation strategies.

a. Sequential
b. Indexed
c. Linked.

SOURCE CODE

Sequential file allocation

```
//Sequential file allocation
#include<stdio.h>
#include <stdlib.h>
int main()
{
	int f[50],i,st,j,len,c=1,k;
	for(i=0;i<50;i++)
	f[i]=0;
	while(c ==1){
		printf("Enter the starting block & length of file : ");
		scanf("%d%d",&st,&len);
		for(j=st;j<(st+len);j++){
			if(f[j]==0)
			{
				f[j]=1;
				printf("\n%d->%d",j,f[j]);
			}
			else
			{
				printf("\n\nBlock already allocated");
				break;
			}
		}
		if(j==(st+len))
			printf("\nthe file is allocated to disk");
		printf("\nif u want to enter more files?(y-1/n-0)");
		scanf("%d",&c);
	}
	return 0;
}
```

OUTPUT

```
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$ gcc exp8_1.c
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$ ./a.out
Enter the starting block & length of file : 10 4

10->1
11->1
12->1
13->1
the file is allocated to disk
if u want to enter more files?(y-1/n-0)0
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$
```

Indexed file allocation

```
//Indexed file allocation
#include<stdio.h>
int main()
{
    int f[50],i,k,j,inde[50],n,c=0,count=0,p,g=1;
    for(i=0;i<50;i++)
        f[i]=0;
    while(g == 1){
        printf("enter index block : ");
        scanf("%d",&p);
        if(f[p]==0)
        {
            f[p]=1;
            printf("enter no of files on index : ");
            scanf("%d",&n);
            g=0;
        }
        else
        {
            printf("Block already allocated\n");
            continue;
        }
        for(i=0;i<n;i++)
         scanf("%d",&inde[i]);
        for(i=0;i<n;i++){
            if(f[inde[i]]==1)
            {
                printf("Block already allocated");
                continue;
            }
        }
        for(j=0;j<n;j++)
            f[inde[j]]=1;
```

```
        printf("\nallocated");
        printf("\nfile indexed");
        for(k=0;k<n;k++)
            printf("\n%d->%d:%d",p,inde[k],f[inde[k]]);
        printf("\nEnter 1 to enter more files and 0 to exit : ");
        scanf("%d",&c);
    }
    return 0;
}
```

OUTPUT

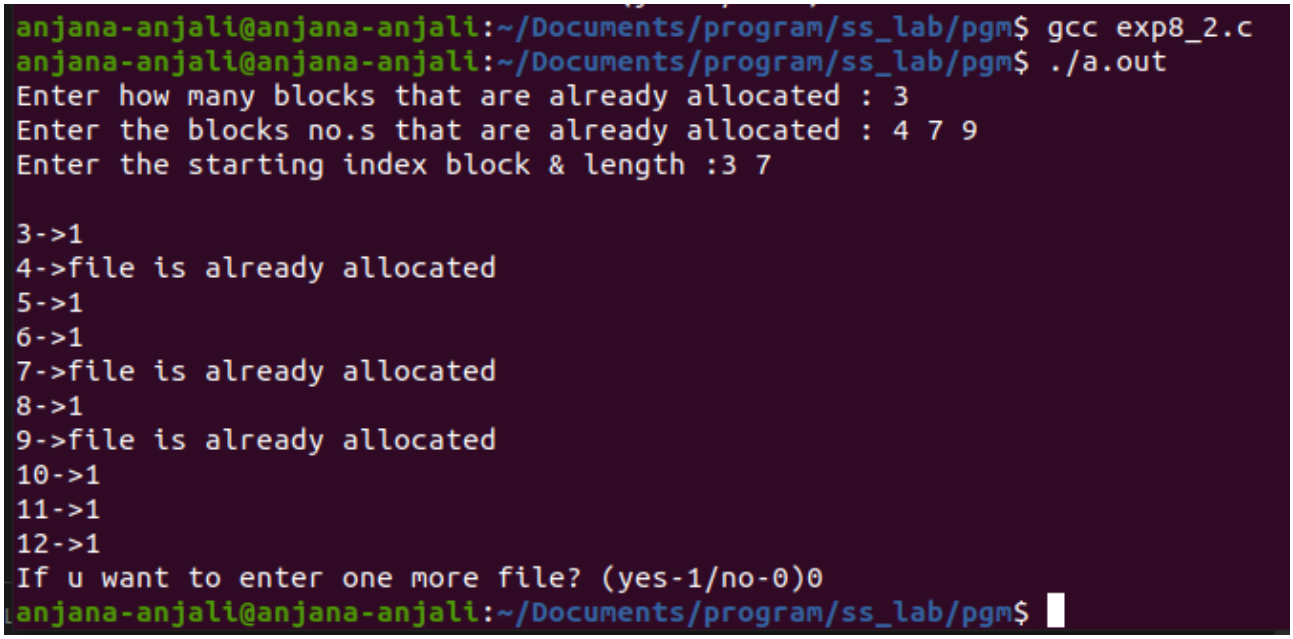
```
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$ gcc exp8_3.c
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$ ./a.out
enter index block : 9
enter no of files on index : 3
1 2 3

allocated
file indexed
9->1:1
9->2:1
9->3:1
Enter 1 to enter more files and 0 to exit : 0
anjana-anjali@anjana-anjali:~/Documents/program/ss_lab/pgm$
```

Linked file allocation

```
//Linked file allocation
#include<stdio.h>
int main()
{
    int f[50],p,i,j,k,a,st,len,n,c=1;
    for(i=0;i<50;i++)
        f[i]=0;
    printf("Enter how many blocks that are already allocated : ");
    scanf("%d",&p);
    printf("Enter the blocks no.s that are already allocated : ");
    for(i=0;i<p;i++)
    {
        scanf("%d",&a);
        f[a]=1;
    }
    while(c == 1){
        printf("Enter the starting index block & length :");
        scanf("%d%d",&st,&len);
        k=len;
        for(j=st;j<(k+st);j++)
        {
            if(f[j]==0)
```

```
            {
                f[j]=1;
                printf("\n%d->%d",j,f[j]);
            }
            else
            {
                printf("\n%d->file is already allocated",j);
                k++;
            }
        }
        printf("\nIf u want to enter one more file? (yes-1/no-0)");
        scanf("%d",&c);
    }
    return 0;
}
```

OUTPUT



RESULT

The program executed successfully and desired results obtained.

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