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OS LAB-9

First Fit:

first_fit.c

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #define max 25
4
5 int main(){
6     int frag[max],b[max],f[max],i,j,nb,nf,temp;
7     int bf[max],ff[max];
8     printf("\nEnter the number of blocks:");
9     scanf("%d",&nb);
10    printf("Enter the number of files:");
11    scanf("%d",&nf);
12    printf("\nEnter the size of the blocks:-\n");
13
14    for(i=1;i<=nb;i++){
15        printf("Block %d:",i);
16        scanf("%d",&b[i]);
17    }
18
19    printf("Enter the size of the files:-\n");
20
21    for(i=1;i<=nf;i++){
22        printf("File %d:",i);
23        scanf("%d",&f[i]);
24    }
25
26    for(i=1;i<=nf;i++){
27        for(j=1;j<=nb;j++){
28            {
29                if(bf[j]!=1)
30                {
31                    temp=b[j]-f[i];
32                    if(temp>=0)
33                    {
34                        ff[i]=j;
35                        break;
36                    }
37                }
38            }
39
40            frag[i]=temp;
41            bf[ff[i]]=1;
42        }
43
44        printf("\nFile_no:\tFile_size :\tBlock_no:\tBlock_size:\tFragment");
45
46        for(i=1;i<=nf;i++){
47            printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);
48        }
49        return 0;
50    }
```

```
alaric@alaric-virtual-machine:~/Desktop$ ./a.out
```

```
Enter the number of blocks:5
```

```
Enter the number of files:4
```

```
Enter the size of the blocks:-
```

```
Block 1:50
```

```
Block 2:100
```

```
Block 3:90
```

```
Block 4:200
```

```
Block 5:50
```

```
Enter the size of the files:-
```

```
File 1:90
```

```
File 2:20
```

```
File 3:50
```

```
File 4:200
```

File_no:	File_size :	Block_no:	Block_size:	Fragment
1	90	2	100	10
2	20	1	50	30
3	50	3	90	40
4	200	4	200	0

```
alaric@alaric-virtual-machine:~/Desktop$
```

Best Fit:

best_fit.c

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #define max 25
4
5 int main(){
6
7     int frag[max],b[max],f[max],i,j,nb,nf,temp,lowest=10000;
8     int bf[max],ff[max];
9     printf("\nEnter the number of blocks:");
10    scanf("%d",&nb);
11    printf("Enter the number of files:");
12    scanf("%d",&nf);
13    printf("\nEnter the size of the blocks:-\n");
14
15    for(i=1;i<=nb;i++){
16        printf("Block %d:",i);
17        scanf("%d",&b[i]);
18    }
19
20    printf("Enter the size of the files:-\n");
21
22    for(i=1;i<=nf;i++){
23        printf("File %d:",i);
24        scanf("%d",&f[i]);
25    }
26
27    for(i=1;i<=nf;i++){
28        for(j=1;j<=nb;j++){
29
30            if(bf[j]!=1){
31
32                temp=b[j]-f[i];
33
34                if(temp>=0)
35                    if(lowest>=temp){
36                        ff[i]=j;
37                        lowest=temp;
38                    }
39            }
40        }
41
42        frag[i]=lowest;
43        bf[ff[i]]=1;
44        lowest=10000;
45    }
46
47    printf("\nFile_no   \tFile_size   \tBlock_no   \tBlock_size   \tFragment");
48
49    for(i=1;i<=nf && ff[i]!=0;i++)
50        printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);
51
52    return 0;
53 }
```

```
alaric@alaric-virtual-machine:~/Desktop$ ./a.out
```

```
Enter the number of blocks:5
```

```
Enter the number of files:4
```

```
Enter the size of the blocks:-
```

```
Block 1:50
```

```
Block 2:100
```

```
Block 3:90
```

```
Block 4:200
```

```
Block 5:50
```

```
Enter the size of the files:-
```

```
File 1:90
```

```
File 2:20
```

```
File 3:50
```

```
File 4:200
```

File_no	File_size	Block_no	Block_size	Fragment
1	90	3	90	0
2	20	1	50	30
3	50	5	50	0
4	200	4	200	0

Worst Fit:

worst_fit.c

```
1 #include<stdio.h>
2 #include<stdlib.h>
3 #define max 25
4
5 int main(){
6
7     int frag[max],b[max],f[max],i,j,nb,nf,temp,highest=0;
8     int bf[max],ff[max];
9
10    printf("\nEnter the number of blocks:");
11    scanf("%d",&nb);
12    printf("Enter the number of files:");
13    scanf("%d",&nf);
14    printf("\nEnter the size of the blocks:-\n");
15
16    for(i=1;i<=nb;i++){
17        printf("Block %d:",i);
18        scanf("%d",&b[i]);
19    }
20
21    printf("Enter the size of the files:-\n");
22
23    for(i=1;i<=nf;i++){
24        printf("File %d:",i);
25        scanf("%d",&f[i]);
26    }
27
28    for(i=1;i<=nf;i++){
29        for(j=1;j<=nb;j++){
30
31            if(bf[j]!=1){
32
33                temp=b[j]-f[i];
34                if(temp>=0)
35                    if(highest<temp){
36                        ff[i]=j;
37                        highest=temp;
38                    }
39            }
40        }
41
42        frag[i]=highest;
43
44        bf[ff[i]]=1;
45    }
46
47    printf("\nFile_no   \tFile_size   \tBlock_no   \tBlock_size   \tFragment");
48
49    for(i=1;i<=nf;i++){
50        printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,f[i],ff[i],b[ff[i]],frag[i]);
51    }
52    return 0;
53 }
```

```
alaric@alaric-virtual-machine:~/Desktop$ ./a.out
```

```
Enter the number of blocks:5
```

```
Enter the number of files:4
```

```
Enter the size of the blocks:-
```

```
Block 1:90
```

```
Block 2:100
```

```
Block 3:200
```

```
Block 4:80
```

```
Block 5:100
```

```
Enter the size of the files:-
```

```
File 1:200
```

```
File 2:100
```

```
File 3:90
```

```
File 4:80
```

File_no	File_size	Block_no	Block_size	Fragment
1	200	0	0	0
2	100	3	200	100
3	90	2	100	10
4	80	5	100	20

```
alaric@a
```