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OS LAB-9

First Fit:

first_fit.c

```c
#include<stdio.h>
#include<stdlib.h>
#define max 25

int main(){
int frag[max],b[max],f[max],i,j,nb,nf,temp;
int bf[max],ff[max];
printf("\nEnter the number of blocks:");
scanf("%d",&nb);
printf("Enter the number of files:");
scanf("%d",&nf);
printf("\nEnter the size of the blocks:-\n");

for(i=1;i<=nb;i++){
printf("Block %d:",i);
scanf("%d",&b[i]);
}

printf("Enter the size of the files:-\n");

for(i=1;i<=nf;i++){
printf("File %d:",i);
scanf("%d",&f[i]);
}

for(i=1;i<=nf;i++){
for(j=1;j<=nb;j++)
{
if(bf[j]!=1)
{
temp=b[j]-f[i];
if(temp>=0)
{
ff[i]=j;
break;
}
}
}

frag[i]=temp;
bf[ff[i]]=1;
}

printf("\nFile_no:\tFile_size :\tBlock_no:\tBlock_size:\tFragment");

for(i=1;i<=nf;i++)
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]);

return 0;
}
```

```
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             0alaric@ala
```

Best Fit:

best_fit.c

```c
#include<stdio.h>
#include<stdlib.h>
#define max 25

int main(){

int frag[max],b[max],f[max],i,j,nb,nf,temp,lowest=10000;
int bf[max],ff[max];
printf("\nEnter the number of blocks:");
scanf("%d",&nb);
printf("Enter the number of files:");
scanf("%d",&nf);
printf("\nEnter the size of the blocks:-\n");

for(i=1;i<=nb;i++){
printf("Block %d:",i);
scanf("%d",&b[i]);
}

printf("Enter the size of the files:-\n");

for(i=1;i<=nf;i++){
printf("File %d:",i);
scanf("%d",&f[i]);
}

for(i=1;i<=nf;i++){
for(j=1;j<=nb;j++){

if(bf[j]!=1){

temp=b[j]-f[i];

if(temp>=0)
if(lowest>=temp){
ff[i]=j;
lowest=temp;
}
}
}
```

```c

frag[i]=lowest;
bf[ff[i]]=1;
lowest=10000;
}

printf("\nFile_no  \tFile_size  \tBlock_no  \tBlock_size  \tFragment");

for(i=1;i<=nf && ff[i]!=0;i++)
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]);

return 0;
}
```

```
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             0alaric@a
```

Worst Fit:

worst_fit.c

```c
#include<stdio.h>
#include<stdlib.h>
#define max 25

int main(){

int frag[max],b[max],f[max],i,j,nb,nf,temp,highest=0;
int bf[max],ff[max];

printf("\nEnter the number of blocks:");
scanf("%d",&nb);
printf("Enter the number of files:");
scanf("%d",&nf);
printf("\nEnter the size of the blocks:-\n");

for(i=1;i<=nb;i++){
printf("Block %d:",i);
scanf("%d",&b[i]);
}

printf("Enter the size of the files:-\n");

for(i=1;i<=nf;i++){
printf("File %d:",i);
scanf("%d",&f[i]);
}

for(i=1;i<=nf;i++){
for(j=1;j<=nb;j++){

if(bf[j]!=1){

temp=b[j]-f[i];
if(temp>=0)
if(highest<temp){
ff[i]=j;
highest=temp;
}
}
}

frag[i]=highest;

bf[ff[i]]=1;
highest=0;
}

printf("\nFile_no  \tFile_size  \tBlock_no  \tBlock_size  \tFragment");

for(i=1;i<=nf;i++)
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]);

return 0;
}
```

```
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             20alaric@a
```