

ASSIGNMENT 4

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Subject = Operating systems

First Fit

```
1  #include<stdio.h>
2  void main()
3  {
4      int bsize[10], psize[10], bno, pno, flags[10], allocation[10], i, j;
5      for(i = 0; i < 10; i++)
6      {
7          flags[i] = 0;
8          allocation[i] = -1;
9      }
10     printf("Enter no. of blocks: ");
11     scanf("%d", &bno);
12     printf("\nEnter size of each block: ");
13     for(i = 0; i < bno; i++)
14         scanf("%d", &bsize[i]);
15     printf("\nEnter no. of processes: ");
16     scanf("%d", &pno);
17     printf("\nEnter size of each process: ");
18     for(i = 0; i < pno; i++)
19         scanf("%d", &psize[i]);
20     for(i = 0; i < pno; i++)           //allocation as per first fit
21         for(j = 0; j < bno; j++)
22             if(flags[j] == 0 && bsize[j] >= psize[i])
23             {
24                 allocation[j] = i;
25                 flags[j] = 1;
26                 break;
27             }
28     //display allocation details
29     printf("\nBlock no.\tsize\t\tprocess no.\t\tsize");
30     for(i = 0; i < bno; i++)
31     {
32         printf("\n%d\t\t%d\t\t", i+1, bsize[i]);
33         if(flags[i] == 1)
34             printf("%d\t\t\t%d", allocation[i]+1, psize[allocation[i]]);
35         else
36             printf("Not allocated");
37     }
38 }
```

```
PS E:\College\4th sem\OS> cd "e:\College\4th sem\OS"
```

```
PS E:\College\4th sem\OS> & .\"first.exe"
```

```
Enter no. of blocks: 4
```

```
Enter size of each block: 10 12 50 4
```

```
Enter no. of processes: 3
```

```
Enter size of each process: 6 4 10
```

Block no.	size	process no.	size
1	10	1	6
2	12	2	4
3	50	3	10
4	4	Not allocated	

```
PS E:\College\4th sem\OS> 
```

Worst fit

```
#include<stdio.h>
#include<conio.h>
#define max 25
void main()
{
int frag[max],b[max],f[max],i,j,nb,nf,temp,highest=0;
static int bf[max],ff[max];

printf("\n\tMemory Management Scheme - Worst Fit");
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) //if bf[j] is not allocated
{
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;
}

ff[i]=j;
highest=temp;
}

printf("\nFile_no:\tFile_size :\tBlock_no:\tBlock_size:\tFragement");
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]);
getch();
}
```

```
PS E:\College\4th sem\OS> cd E:\College\4th sem\OS
PS E:\College\4th sem\OS> & .\"worst.exe"
```

Memory Management Scheme - Worst Fit

Enter the number of blocks:4

Enter the number of files:5

Enter the size of the blocks:-

Block 1:20

Block 2:25

Block 3:45

Block 4:60

Enter the size of the files :-

File 1:12

File 2:41

File 3:60

File 4:10

File 5:15

File_no:	File_size :	Block_no:	Block_size:	Fragement
1	12	5	581	48
2	41	5	581	0
3	60	5	581	0
4	10	5	581	0
5	15	5	581	0

Best fit

```
#include<stdio.h>

void main()
{
int fragment[20],b[20],p[20],i,j,nb,np,temp,lowest=9999;
static int barray[20],parray[20];
printf("\n\t\t\tMemory Management Scheme - Best Fit");
printf("\nEnter the number of blocks:");
scanf("%d",&nb);
printf("Enter the number of processes:");
scanf("%d",&np);
printf("\nEnter the size of the blocks:-\n");
for(i=1;i<=nb;i++)
{
printf("Block no.%d:",i);
scanf("%d",&b[i]);
}
printf("\nEnter the size of the processes :-\n");
for(i=1;i<=np;i++)
{
printf("Process no.%d:",i);
scanf("%d",&p[i]);
}
for(i=1;i<=np;i++)
{
for(j=1;j<=nb;j++)
{
if(barray[j]!=1)
{
temp=b[j]-p[i];
if(temp>=0)
if(lowest>temp)
{
parray[i]=j;
lowest=temp;
}
}
}
}
```

```

}
fragment[i]=lowest;
barray[parray[i]]=1;
lowest=10000;
}
printf("\nProcess_no\tProcess_size\tBlock_no\tBlock_size\tFragment");
for(i=1;i<=np && parray[i]!=0;i++)
printf("\n%d\t\t%d\t\t%d\t\t%d\t\t%d",i,p[i],parray[i],b[parray[i]],fragment[i]);
}

```

```

PS E:\College\4th sem\OS> cd "e:\College\4th sem\OS"
PS E:\College\4th sem\OS> & .\"best.exe"

```

Memory Management Scheme - Best Fit

```

Enter the number of blocks:4
Enter the number of processes:3

```

Enter the size of the blocks:-

```

Block no.1:10
Block no.2:54
Block no.3:20
Block no.4:5

```

Enter the size of the processes :-

```

Process no.1:45
Process no.2:20
Process no.3:6

```

Process_no	Process_size	Block_no	Block_size	Fragment
1	45	2	54	9
2	20	3	20	0
3	6	1	10	4

```

PS E:\College\4th sem\OS>

```