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Experiment No. 8

Code:

A)

```
#include<stdio.h>
void main()
{
    int m=0,m1=0,m2=0,p,count=0,i;
    printf("enter the memory capacity:");
    scanf("%d",&m);
    printf("enter the no of processes:");
    scanf("%d",&p);
    for(i=0;i<p;i++)
    {
        printf("\nenter memory req for process%d: ",i+1);
        scanf("%d",&m1);
        count=count+m1;
        if(m1<=m)
        {
            if(count==m)
            printf("there is no further memory remaining:"); printf("the
            memory allocated for process%d is: %d ",i+1,m);
            m2=m-m1;
            printf("\nremaining memory is: %d",m2);
            m=m2;
        }
        else
        {
            printf("memory is not allocated for process%d",i+1);
        }
        printf("\nexternal fragmentation for this process is:%d\n",m2);
    }
}
```

Output:

```

ospc-10@ospc10-H81M-S1:~/vedant$ gcc exp8a.c
ospc-10@ospc10-H81M-S1:~/vedant$ ./a.out
enter the memory capacity:15
enter the no of processes:3

enter memory req for process1: 2
the memory allocated for process1 is: 15
remaining memory is: 13
external fragmentation for this process is:13

enter memory req for process2: 4
the memory allocated for process2 is: 13
remaining memory is: 9
external fragmentation for this process is:9

enter memory req for process3: 7
the memory allocated for process3 is: 9
remaining memory is: 2
external fragmentation for this process is:2
ospc-10@ospc10-H81M-S1:~/vedant$

```

Code:

B)

```

#include<stdio.h>
int main()
{
    int m,p,s,p1;
    int m1[4],i,f,f1=0,f2=0,fra1,fra2,s1,pos;
    printf("Enter the memory size:");
    scanf("%d",&m);
    printf("Enter the no of partitions:");
    scanf("%d",&p);
    s=m/p;
    printf("Each partn size is:%d",s);
    printf("\nEnter the no of processes:");
    scanf("%d",&p1);
    pos=m;
    for(i=0;i<p1;i++)
    {
        if(pos<s)
        {
            printf("\nThere is no further memory for process%d",i+1);
            m1[i]=0;
            break;
        }
        else
        {
            printf("\nEnter the memory req for process%d:",i+1);
            scanf("%d",&m1[i]);
            if(m1[i]<=s)

```

```

{
printf("\nProcess is allocated in partition%d",i+1);
fra1=s-m1[i];
printf("\nInternal fragmentation for process is:%d",fra1);
f1=f1+fra1;
pos=pos-s;
}
else
{
printf("\nProcess not allocated in
partition%d",i+1); s1=m1[i];
while(s1>s)
{
s1=s1-s;
pos=pos-s;
}
pos=pos-s;
fra2=s-s1;
f2=f2+fra2;
printf("\nExternal Fragmentation for this process
is:%d",fra2); }
}
}
printf("\nProcess\tallocatedmemory");
for(i=0;i<p1;i++)
printf("\n%5d\t%5d",i+1,m1[i]);
f=f1+f2;
printf("\nThe tot no of fragmentation is:%d\n",f);
return 0;
}

```

Output:

```
ospc-10@ospc10-H81M-S1:~/vedant$ gcc exp8b.c
ospc-10@ospc10-H81M-S1:~/vedant$ ./a.out
Enter the memory size:20
Enter the no of partitions:3
Each partn size is:6
Enter the no of processes:3

Enter the memory req for process1:1

Process is allocated in partition1
Internal fragmentation for process is:5
Enter the memory req for process2:0

Process is allocated in partition2
Internal fragmentation for process is:6
Enter the memory req for process3:3

Process is allocated in partition3
Internal fragmentation for process is:3
Process allocatedmemory
    1      1
    2      0
    3      3
The tot no of fragmentation is:14
ospc-10@ospc10-H81M-S1:~/vedant$
```