Ex. No.: 10b)
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FIRST FIT

Aim:

To write a C program for implementation memory allocation methods for fixed partition using first fit.

Algorithm:

1. Define the max as 25.
2. Declare the variable frag[max],b[max],f[max],i,j,nb,nf,temp, highest=0, bf[max],ff[max]. 3: Get the number of blocks,files,size of the blocks using for loop.
4. In for loop check bf[j]!=1, if so temp=b[j]-f[i]
5. Check highest

Program Code:

```
#include<stdio.h>
#define MAX 25
int main(){
    int frag[MAX], b[MAX], f[MAX], bf[MAX], ff[MAX];
    int i, j, nb, nf, temp;
    printf("Enter the number of memory blocks: ");
    scanf("%d", &nb);
    printf("Enter the size of each memory block:\n");
    for(i=0; i<nb; i++){
        print("Block %d: ", i+1);
        scanf("%d", &b[i]);
        bf[i]=0;
        printf("Enter the number of files processes:");
        scanf("%d", &nf);
        printf("Enter the size of each file:\n");
        for(i=0; i<nf; i++){
            printf("File %d:", i+1);
            scanf("%d", &f[i]);
}
```

```
for(i=0; j<nf; i++){
    for(j=0; j<nb; j++){
        if(bff[j]==0 && b[j]>=f[i]){
            ff[i]=j;
            bf[j]=1;
            frag[i]=b[j]-f[i];
            break;
        }
    }
    if(j==nb){
        ff[i]=-1;
    }
}
printf("\nFileNo\tFile Size\tBlock No\tBlock size\tFragment\n");
for(i=0;i<nf;i++){
    printf("%d\t\t%d\t\t",i+1,f[i]);
    if(ff[i]!=-1)
        printf("%d\t\t%d\t\t%d\n",ff[i]+1,b[ff[i]],frag[i]);
    else
        printf("Not Allocated\t-\t\t-\n");
}
}
```

Sample Output:

```
Enter the number of blocks:4
Enter the number of files:3

Enter the size of the blocks:-
Block 1:5
Block 2:8
Block 3:4
Block 4:10
Enter the size of the files:-
File 1:1
File 2:4
File 3:7

File_no:        File_size :     Block_no:       Block_size:     Fragment
1               1               1               5               4
2               4               2               8               4
3               7               4               10              3
```

The fragment of blocks are

80
15
23
5
20

Process No	Process_size	Block_No	Fragment
P_1	20	1	30
P_2	30	2	15
P_3	50	5	20
P_4	40	4	5
P_5	10	3	23.

Result:

Using C program the first fit memory allocation algorithm's implemented.