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 bs[MAX], bo[MAX], bc, fs[MAX], fc, allloc[MAX],
  fragment[MAX];
  printf("Enter no of Memory Blocks (max %d): ",MAX);
  scanf("%d",&bo);
  printf("Enter size of Each Block : \n");
  for(int i=0; i<bc; i++)
  {
    printf("Block %d size:", i+1);
    scanf("%d", &Block bs[i]);
    bo[i] = bs[i];
  }
  printf("\n Enter no of Files (max %d): ", MAX);
  scanf("%d",&fc);
```

```
printf("Enter size of each file: \n");
for(int i = 0; i < fc; i++)
{
  printf("File %d size: ", i+1);
  scanf("%d", &fs[i]);
  alloc[i] = -1;
  fragment[i] = 0;
}
for(int i = 0; i < fc; i++)
{
  for(int j = 0; j < bc; j++)
  {
    if(bs[j] >= fs[i])
    {
      alloc[i] = j;
      fragment[i] = bs[j] - fs[i];
      bs[j] -= fs[i];
      break;
    }
  }
}
printf("\n File No\t File Size\t Block No\t Block Size\t
                                        Fragment\n");
for(int i=0; i<fc; i++)
{
  printf("%d\t\t%d\t\t", i+1, fs[i]);
  if(alloc[i] != -1)
  {
    int bno = alloc[i];
    printf("%d\t\t%d\t\t%d\n", bno+1, bs[bno],
                                        fragment[i]);
  }
  else
  {
    printf("Not Allocated\t-\t\t-\n");
  }
}
return 0;
}
```

Output :-

```
Enter no of memory blocks : 4
Block 1 size : 300
Block 2 size : 250
Block 3 size : 400
Block 4 size : 500

Enter no of files : 4
File 1 size : 212
File 2 size : 200
File 3 size : 312
File 4 size : 417
```

File No	File Size	Block No	Block Size	Fragment
1	212	2	250	38
2	200	1	300	100
3	312	3	400	88
4	417	4	500	83

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_
```

Result:

Hence the First Fit Algorithm is Implemented and Executed