Ex. No.: 10a)
Date: 11/4/25

BEST FIT

Aim:

To implement Best Fit memory allocation technique using Python.

Algorithm:

1. Input memory blocks and processes with sizes
2. Initialize all memory blocks as free.
3. Start by picking each process and find the minimum block size that can be assigned to current process
4. If found then assign it to the current process.
5. If not found then leave that process and keep checking the further processes.

Program Code:

```
#include<stdio.h>
#include<stdbool.h>
int main(){
    int  n,m;
    printf("Enter the no of processes & blocks:");
    scanf("%d %d",&n,&m);
     int p[n], b[m];
     printf("Enter the sizes of processes :\n");
     for(int i=0; i<n; i++)
     {    scanf("%d",&p[i]);
     }
     printf("Enter the sizes of memory blocks\n:");
     for(int i=0;i<m;i++){
          scanf("%d",&b[i]);
     }
      int f[n], f2[m];
for(int i=0 ; i<n ; i++){
        f[i]=-1;
}
for (int i=0 ; i<m; i++){
        f2[i]=0;
}
for(int i=0; i<n; i++){
        int k=-1;
    for(int j=0 ; j<m ; j++){
        if (b[j]>= p[i]  && f2[j]==0){
            if (k==-1 || b[k] > b[j]){
                k=j ;
            }
        }
    }if (k!=-1){
        f[i]=k;
        f2[k]=1;
    }
}
printf(" Process No.          Process size.
        Block No.\n");
for(int i=0 ; i<n; i++){
 if (f[i] != -1)
    printf(" %d               %d        %d\n",
            i+1, P[i], f[i]+1);
 else
    Printf(" %d               %d        %s\n",
            i+1, P[i], "Not Allocated");
}
}
```

Sample Output:

```
Process No.   Process Size   Block no.
    1             212            4
    2             417            2
    3             112            3
    4             426            5
```

Input

Enter the no of processes & blocks : 3   3

Enter the sizes of the processes:

100   200   300

Enter the sizes of memory blocks:

250 · 100   150

```
ProcessNo.      Process size,      BlockNo.
  1               100                2
  2               200                1
  3               300                Not Allocated.
```

Result:

Thus the c program for best fit is successfully executed.

[illegible]

Ex. No.: 10b)
Date: 11/4/25

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

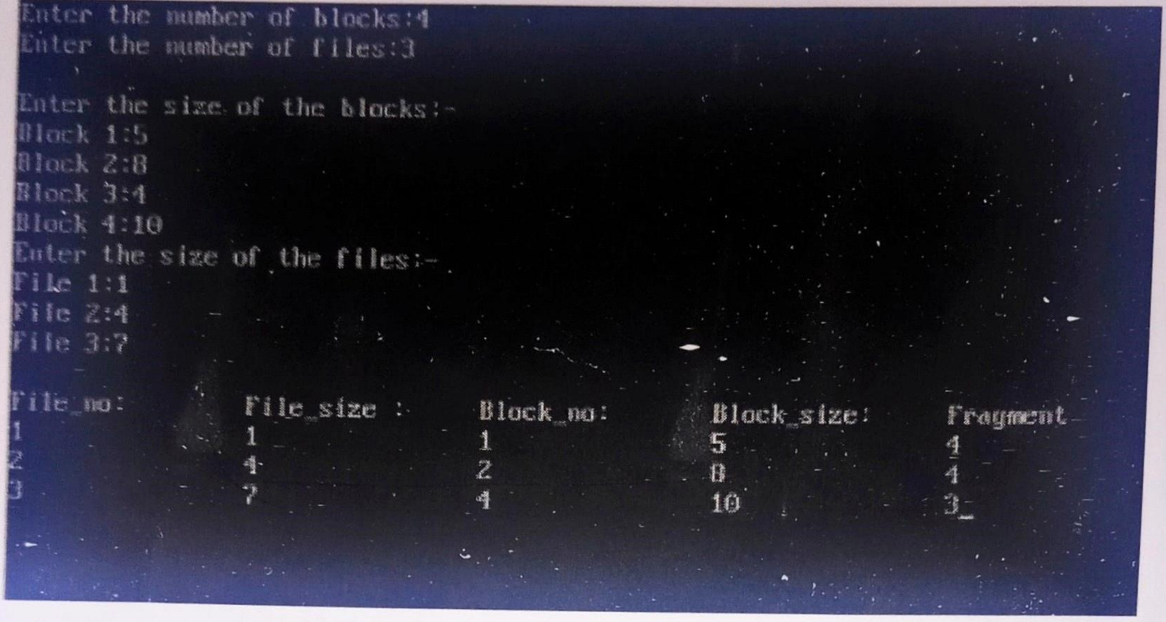
Program Code:

```
#include <stdio.h>
#include <stdbool.h>
int main(){
    int n, m;
    printf("Enter the no of processes & blocks:");
    scanf("%d %d", &n, &m);
    int p[n], b[m];
    printf(" Enter the sizes of the processes :\n");
    for(int i=0 ; i<n ; i++){
          scanf(" %d ", &p[i]);
    }
    printf("Enter the sizes of memory blocks: \n");
    for(int i=0; i<m; i++){
          scanf("%d", & b[i]);

    }
```

```
int f[n], f2[m];
for(int i=0; i<n ; i++){
        f[i]= -1;
}
for(int i=0 ; i<m; i++){
        f2[i]= 0;
}
for(int i=0 ; i<n ; i++){
        for (int j=0 ; j<m ; j++){
                if(b[j]>= P[i]  && f2[j] ==0){
                        f[i]=j;
                        f2[j]= 1;
                        break;
                }
        }
}
Printf ("Process NO.      Process Size.      Block No.
                            Block size.   Fragment");
for(int i=0 ; i<n; i++){
    if(f[i]!=-1)
    {
     Printf("%d          %d            %d\n", i+1,
                                     P[i], f[i]+1,
                                     b[f[i]], b[f[i]]-
                                                  P[i]);
    }
    else
    {
        Printf("%d          %d          %s\n", i+1,
                              P[i], "Not Allocated");
    }
}
```

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_
```

```
Enter the number of processes & blocks : 4   5
Enter the sizes of the processes:
212   417   112   426
Enter the sizes of the memory blocks :
100   500   200   300 600
                                                        Block size
Process No.    Process Size.    Block No.         ~~Fragment~~     Fragment
   1              212              2                 500             288
   2              417              5                 600             183
   3              112              3                 200              88
   4              426            Not Allocated
```

Result:

Thus the c program for first fit is executed Successfully

[illegible]