Ex No.: 10b FIRST FIT

Date : 10.04.2025

Aim :

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

Code:

```
#include <stdio.h>
#define MAX 25

int main() {
    int frag[MAX], b[MAX], f[MAX], bf[MAX] = {0}, ff[MAX];
    int nb, nf, i, j, temp;
    printf("Enter 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 = 0; i < nb; i++) {
        printf("Block %d: ", i+1);
        scanf("%d", &b[i]);
    }
    printf("\nEnter the size of the files:\n");
    for(i = 0; i < nf; i++) {
        printf("File %d: ", i+1);
        scanf("%d", &f[i]);
    }
    for(i = 0; i < nf; i++) {
        for(j = 0; j < nb; j++) {
            if(bf[j] != 1) {
                temp = b[j] - f[i];
                if(temp >= 0) {
                    ff[i] = j;
```

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

Output:

```
Enter the number of blocks: 3
Enter the number of files: 2

Enter the size of the blocks:
Block 1: 100
Block 2: 200
Block 3: 300

Enter the size of the files:
File 1: 150
File 2: 250

File No File Size       Block No        Block Size      Fragmentation
1       150             2               200             50
2       250             3               300             50
```

Result:

Thus the program to implement First Fit memory allocation technique using C has been executed successfully.