OS LAB MANUAL (CS23431)

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EX.NO:10(B)

FIRST FIT

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

Program:

```
#include <stdio.h> #define
MAX 25
int main() {    int frag[MAX], b[MAX],
f[MAX], i, j, nb, nf;    static int bf[MAX],
ff[MAX];    printf("Enter the number of
blocks: ");    scanf("%d", &nb);
printf("Enter the number of files: ");
scanf("%d", &nf);    for (i = 0; i < nb; i++)
{       printf("Block %d: ", i + 1);
scanf("%d", &b[i]);       bf[i] = 0;
  }
  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] ==
0 && b[j] >= f[i]) {
            ff[i] = j;
frag[i] = b[j] - f[i];
            bf[j] = 1;
break;
        }
```

```
        }
    }
    printf("\nFile_no\tFile_size\tBlock_no\tBlock_size\tFragment");
    for (i = 0; i < nf; i++)
{       printf("\n%d\t%d\t\t", i + 1, f[i]);       if
(ff[i] != 0 || (ff[i] == 0 && b[0] >= f[i]))
{ 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;
}
```

Input:

```
praveen@LAPTOP-Q0D8O6DB:~$ vi fit.c
praveen@LAPTOP-Q0D8O6DB:~$ gcc fit.c
praveen@LAPTOP-Q0D8O6DB:~$ ./a.out
Enter the number of blocks: 4
Enter the number of files: 4
Block 1: 2
Block 2: 6
Block 3: 4
Block 4: 5
File 1: 9
File 2: 5
File 3: 5
File 4: 4
```

Output:

```
praveen@LAPTOP-Q0D8O6DB:~$ vi fit.c
praveen@LAPTOP-Q0D8O6DB:~$ gcc fit.c
praveen@LAPTOP-Q0D8O6DB:~$ ./a.out
Enter the number of blocks: 4
Enter the number of files: 4
Block 1: 2
Block 2: 6
Block 3: 4
Block 4: 5
File 1: 9
File 2: 5
File 3: 5
File 4: 4

File_no File_size       Block_no        Block_size      Fragment
1       9               Not Allocated   -               -
2       5               2               6               1
3       5               4               5               0
4       4               3               4               0praveen@LAPTOP-Q0D8O6DB:~$
```