

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] = {0}, ff[MAX];

    int nb, nf, i, j, temp;
    printf("Enter the no. of blocks: ");
    scanf ("%d", &nb);
    printf("Enter no. of files: ");
    scanf ("%d", &nf);
    printf("\nEnter the size of blocks:\n");
    for (i=0; i<nb; i++) {
        printf("Block %d: ", i+1);
        scanf ("%d", &b[i]);
    }
}
```

Block.

100	200	300
-----	-----	-----

Files

150	250
-----	-----

File	file size	Block.No	Fragmentation
1	150	2	50
2	250	3	50

```
printf ("Enter the size of file: \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) {
```

```
                f[i] = j;
```

```
                bf[j] = 1;
```

```
                frag[i] = temp;
```

```
                break;
```

```
            } } }
```

```
if (j == nb) {
```

```
    ff[i] = -1;
```

```
    frag[i] = -1;
```

```
}
```

```
}
```

```
printf ("In File No\t File Size \t Block No\t Block size \t Fragmentation");
```

```
for (i=0; i < nf; i++) {
```

```
    printf ("In %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;
```

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_
  
```

output:
 Enter the no. of blocks: 3
 Enter the no. 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

FileNo	Filesize	BlockNo	Blocksize	Fragment-ation
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.