

**23. Construct a C program to implement first fit algorithm of memory management.**

```
#include <stdio.h>

int main() {

    int blockSize[10], processSize[10], allocation[10];

    int b, p, i, j;

    printf("Enter number of blocks: ");

    scanf("%d", &b);

    printf("Enter size of each block:\n");

    for (i = 0; i < b; i++)

        scanf("%d", &blockSize[i]);

    printf("Enter number of processes: ");

    scanf("%d", &p);

    printf("Enter size of each process:\n");

    for (i = 0; i < p; i++)

        scanf("%d", &processSize[i]);

    for (i = 0; i < p; i++)

        allocation[i] = -1; // initially not allocated

    for (i = 0; i < p; i++) {

        for (j = 0; j < b; j++) {

            if (blockSize[j] >= processSize[i]) {

                allocation[i] = j;

                blockSize[j] -= processSize[i];

                break;

            }

        }

    }

}
```

```

printf("\nProcess No.\tProcess Size\tBlock No.\n");

for (i = 0; i < p; i++) {

    printf(" %d\t\t%d\t\t", i + 1, processSize[i]);

    if (allocation[i] != -1)

        printf("%d\n", allocation[i] + 1);

    else

        printf("Not Allocated\n");

}

return 0;

}

```

## OUTPUT-

```

main() {
int blockSize[10], processSize[10], allocation[10];
int b, p, i, j;
printf("Enter number of blocks: ");
scanf("%d", &b);
printf("Enter size of each block:\n");
for (i = 0; i < b; i++)
    scanf("%d", &blockSize[i]);
printf("Enter number of processes: ");
scanf("%d", &p);
printf("Enter size of each process:\n");
for (i = 0; i < p; i++)
    scanf("%d", &processSize[i]);
for (i = 0; i < p; i++)
    allocation[i] = -1; // initially not allocated
for (i = 0; i < p; i++) {
    for (j = 0; j < b; j++) {
        if (blockSize[j] >= processSize[i]) {
            allocation[i] = j;
            blockSize[j] -= processSize[i];
            break;
        }
    }
}
printf("\nProcess No.\tProcess Size\tBlock No.\n");
for (i = 0; i < p; i++) {
    printf(" %d\t\t%d\t\t", i + 1, processSize[i]);
    if (allocation[i] != -1)
        printf("%d\n", allocation[i] + 1);
    else
        printf("Not Allocated\n");
}
return 0;
}

```

```

C:\Users\ROJAYADAV\OneDrive\Documents>gcc 1.c -o 1.exe
C:\Users\ROJAYADAV\OneDrive\Documents>1.exe
Enter number of blocks: 5
Enter size of each block:
6
3
4
5
6
Enter number of processes: 2
Enter size of each process:
1
3
Process No.      Process Size      Block No.
1                1                 1
2                3                 1

-----
Process exited after 18.9 seconds with return value 0
Press any key to continue . . .

```